G. Maintenance schedule

G 1. Service

Correct maintenance at the right time is a basic condition for reliable operation of the tractor. Maintenance costs are small compared with any repair costs resulting from lack of maintenance. The most important measures are those which you carry out yourself and which include lubrication and various checks and adjustments.

The service intervals shown apply for normal operating conditions but in more severe conditions servicing should be carried out more frequently.

G 1.1. General instructions concerning oil checks and oil filling

– Always stop the engine before doing any servicing work.
– Apply the parking brake to ensure the tractor cannot move. If the ground is uneven the wheels should be blocked.
– Always observe the utmost cleanliness in all maintenance work.
IMPORTANT: Do not let the water get to the electrical equipment when washing the machine. Do not wash the inside of the cab with a pressure washer.
– Thoroughly wipe off filler caps and plugs as well as surrounding parts of the tractor before filling up with fuel or oil.
– Inspect the oil and filters when changing. Large amounts of dirt (e.g. heavily clogged filters) can point to a fault which could cause extensive and costly repairs if not corrected in time.
– When carrying out checks the tractor should stand on level ground.
– Levels should be checked before driving when the oil is cold and has had time to run down to the bottom of the unit concerned.
– When changing the oil, bear in mind that the oil can be very hot when it drains from the tractor.
– Avoid touching the exhaust manifold, turbocharger and other hot parts of the engine.
– Keep the engine surfaces clean in order to avoid the risk of fire.
– The fuel, lubricating oil and coolant cause irritation to skin if in contact for long periods.
– After completion of any service work replace all safety covers etc.
– Waste oil, liquid waste, oil filters and batteries should be handled carefully and disposed of properly.

G 1.2. Lubrication of points provided with grease nipples

– Always clean the grease nipples before applying the grease gun.
– Pump in grease to the nipples until clean grease is squeezed out (unless otherwise instructed).
– Wipe off all surplus grease which has been squeezed out at the lubricating points.
– Preferably carry out lubrication with bearing points and joints unloaded and with the bearings in different positions (e.g. lubricate the steering knuckle bearing on the steering axle with the wheels at both full left and right lock and with the front axle lifted up).

G 1.3. Lubrication and maintenance schedule

NOTE: All intervals are counted from zero hours on the hour recorder. For example, the 500 hours service is carried out after 500, 1000 hours etc. even if the measures have been carried out at the guarantee service (=100 hours service).
Example: The 1000 hour service contains all items mentioned under the 10 h/daily and the 50 hrweekly checks as well as the 500 h service.

G 1.4. Service inspection (at 100 hours)

Your dealer gives this cost–free service inspection (excluding oil and filter costs) after 100 hours running to all new Valtra tractors.

The following steps should be taken:

20 Engine

– Change engine oil and filter
– Change prefilter of fuel system
– Change fuel filter

40 Power transmission

– Change filter

60 Steering system and front axle

– Change oil in differential
– Change oil in planetary gears

90 Hydraulic system

– Change pressure filter and clean hydraulic pump suction strainer

General

– Lubricate according to chart
– Road test tractor. During the road test check all the functions of all the controls and instruments. After the road test, check for oil leaks, check the coolant and fuel system.

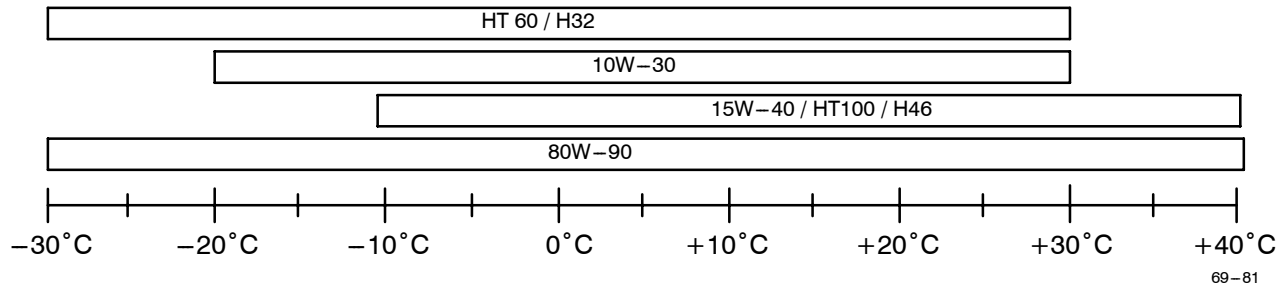
G 2. Recommended fuel and lubricants

All volumes are with filters.

Part of machine	Valtra–grade	SAE/Viscocity	API–grade	Volume when changing l
Engine A75n, A75L–A95L	Valtra Engine E	10W–30: –20˚C...+30˚C 15W–40: –10˚C...+40˚C	CG–4 or CH–4	7
A85n				9
A95n				
Hydraulic system	Valtra Transmission Valtra Hyrdraulic	HT 60: –30˚C...+30˚C HT 100: –10˚C...+40˚C 32: –30˚C...+30˚C 46: –10˚C...+40˚C	ISO VG 32 ISO VG 46	35 upper mark (25 lower mark)
Power transmission	Valtra Transmission	HT 60: –30˚C...+30˚C HT 100: –10˚C...+40˚C	GL–4	32
Powered front axle (4–WD) differential	Valtra Axle (Limited Slip)	80W–90	GL–5	6,5
hubs	Valtra Axle			2 x 1
Front PTO	Valtra Engine	10W/30	CE CF/CF	1,4
			GL 5/4 CCMC D4	
Fuel tank	The fuel (diesel) must conform to the EN 590 standard.			70
– with extra fuel tank				95
Cooling system A75n, A75L	Anti–freeze agent + water (standardi ASTM D3306–86a or BS 6580:1985)			13,5
A85n				15,5
A95n				15,5
A85L, A95L				10,0
Brake fluid reservoir	Brake fluid SAE J1703			0,3
Windscreen washer	Washer fluid			1,5

G 2.1. Oil recommendations according to outdoor temperature

When starting the tractor in a warm garage, oil meant for warmer areas may be used.



ISO 15380 class HEES (synthetic esters) bio oils can be used as transmission and hydraulic oil. The oil must fulfil the technical requirements of tractor transmission oil. The bio oil cannot be mixed with mineral oil.

G 2.2. Quality requirements of engine fuel

Property	Requirement	Test standard
Specific weight +15˚C, ISO 12185	0,82...0,86 kg/litre	ASTM D 4052, EN
Viscosity +40˚C, 445, ISO 31041	1,2...4,5 mm^2/s	ASTM D
Sulphur content	max. 0,2 p–%	ASTM D 4294, ISO 8754
Cetane number 4737	min. 51	ASTM D
Water content	max. 200 mg/kg	ASTM D 1744
Lubricity / **HFRR**	max. 460 μm	ISO 12156–1

The fuel must conform to the EN 590 standard.

IMPORTANT: To mix fuel with any admixing materials is not allowed.

G 2.2.1. Fuel

– The properties of light fuel oil that is only intended for warming use do not meet the requirements of modern diesel engines and cannot be used as fuel.
– In particular, distributor–type injector pumps require the fuel to have sufficient lubricity, because they do not have oil lubrication in the same way as typical multi–element pumps. Adding oil to diesel fuel is not recommended, because it causes carbon build–up, and if oil is mixed with even a small amount of water it will clog the filter.
– Additionally, various fuel quality requirements imposed by taxation and seasonal changes have to be taken into consideration.

G 2.2.2. Fuel storage

– Storing and distributing fuel must be arranged in conditions where no water or impurities can enter the storage tanks. The storage tanks must be installed in a slanted position, so that water and impurities are collected at the opposite end from the suction pipe of the pump. The suction pipe of the pump should not reach the bottom of the tank.
– Water must be periodically drained from the tank in order to prevent problems. Refueling at the same time the tank is being refilled must be avoided without exception.
– When the tank is filled with winter–quality fuel in good time, the engine is guaranteed to run flawlessly during the cold season.

G 2.2.3. Filter system

– The engine's standard filter system gives sufficient protection for the injection system from impurities that can be present in well–tended distribution systems.
– The control of distributor–type injection pumps is based on internal pressure, which will drop if the fuel system is clogged. If the pilot pressure drops too low, engine power is reduced, smoke increased and starting becomes more difficult. Additionally, water in the injection system will destroy it in a very short time. **For this reason, the water trap and the filters must always be serviced according to the specified amount of running hours**.
– It is also important always to use original Valtra (or Sisu Diesel) fuel filters. They guarantee sufficient filtration, preventing impurities from damaging the fuel system. There are many cheap filter kits (so–called pirates) on the market, with lower quality and performance in order to minimise the cost. Among other things, the quality and amount of filter paper are often insufficient. There are also often dangerous defects in the basic structure that may cause expensive damage even in a short period of time.

G 2.2.4. Biodiesel fuel

The only possible alternative fuel to use is RME (Rapeseed Methyl Ester) Biodiesel according to European norm EN 14214 or US norm ASTM D6751. When using Biodiesel the engine capacity is almost the same as using diesel fuel.

G 3. Grease

Always use the following greases in Valtra tractors. Each point requires it own type of grease.

Valtra Grease, NLGI2
Universal grease

Lithium–based universal grease. Is suitable for greasing all heavy machines.
–25˚ ... +130˚C

Universal grease of high quality, lithium based grease for vehicle use. It is recommended for greasing wheel bearings, chassis water pumps, catepillar rollers etc. The grease is adhesive, protects against corrosion and resists water and varying temperatures.
Temperature range is –25˚ ... +130˚C.

Valtra Calsium LF, NLGI2
Calsium Grease LF

Is suitable for greasing all heavy machines. Long fibre grease. Colour red. Especially good for greasing points exposed to water.
–25˚ ... +80˚C

Calsium LF is of long fibre, high quality and calsium based universal grease for vehicle use. It is recommended for greasing chassis, water pumps, pins etc.The grease is adhesive, protects against corrosion and resists water and varying temperatures.
Temperature range is –25˚ ... +80˚C.

Valtra Grease Moly
Moly Grease

Is suitable for greasing all heavy machines. Lithium–based universal grease. Molybdenum sulphide as an additive (1–3%) improves greasing in places exposed to shock loads.
–25˚ ... +130˚C

Universal grease of high quality, lithium based grease for vehicle use. It is recommended for greasing wheel bearings, chassis water pumps, catepillar rollers etc. The grease is adhesive, protects against corrosion and resists water and varying temperatures.
Temperature range is –25˚ ... +130˚C.

Avoid repeating skin contact.

Protect nature and take care of empty packages.

G 4. Maintenance schedule

PERIODICAL MAINTENANCE–schedule (according to operator's manual) is recommended for all tractors and specially for tractors, which have more than 1000 running hours in one year. The periodical maintenances from 50 hours onwards can also be ordered from the authorized workshop. In that case the periodical maintenance is carried out by Valtra authorized and trained service personnel.

YEARLY MAINTENANCE–schedule should be carried out by an authorized workshop, but for tractors which have under 1000 running hours in one year the operator has to carry out the normal service routines according to the following table (like daily and weekly periodic maintenance).

Observe when doing the services that if the tractor is equipped with extra equipment like towing device, air condition, air pressure brakes etc. the periodical maintenances and checks for them must be carried out. The extra equipment which needs servicing is given in the end of this manual in section "K".

The same numbering system as used on the detached maintenance schedule are placed in brackets where applicable.

G 4.1. Daily/every 10 hours

See page

1. Check engine oil level 70
2. Check coolant level and radiator fins and front grilles of the engine cover 70

G 4.2. Weekly/every 50 hours

3. Lubricate front axle and steering nipples 71

2–wheel drive

– front axle mountings (2 nipples)
– steering knuckles (2 nipples)

4–wheel drive

– front axle mountings (2 nipples)

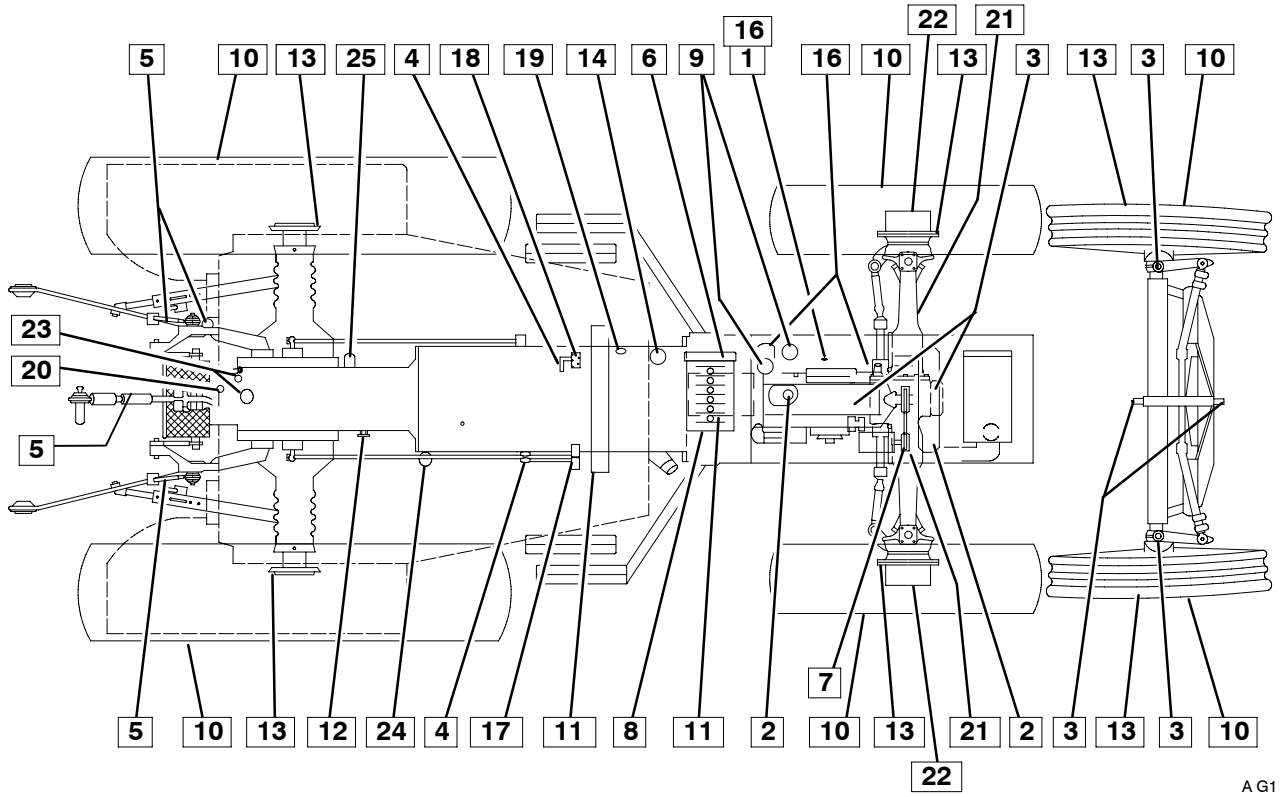
4. Lubricate brake and clutch pedals (3 nipples) 71
5. Lubricate top link and lifting links 72
6. Check fluid level in windscreen washer 72
7. Check belts tightness 72
8. Check electrolyte level in battery 73
9. Check prefilter and fuel filter of fuel system 74
10. Check tyre pressures 74

G 4.3. Every 500 hours

See page

11. Clean cab air filter and also upper filter (extra equipment) 75
12. Lubricate gear lever joints 75
13. Check wheel nuts tightness 76
14. Check brake fluid level 76
15. Grease door hinges 76
16. Change engine oil and filter (or yearly), in extremely dusty conditions or when using over 5 % Biodiesel fuel at 250–hour. 77
17. Check brake pedal free travel 77
18. Check clutch pedal free travel 78
19. Check PTO lever free travel 78
20. Check oil level in power/ transmission 78
21. Check oil level in differential, 4–wheel drive 78
22. Check oil lever in hub reduction gears, 4–wheel drive 79
23. Check oil level in hydraulic system 79
24. Change pressure filter in hydraulic system 79
25. Change oil filter transmission 79

NOTE: When carrying out servicing you must follow the service intervals, i.e., you must also do all previously mentioned items. For example, when doing 500 hours service you must also do the servicing required weekly and daily.



G 4.4. Every 1000 hours/yearly

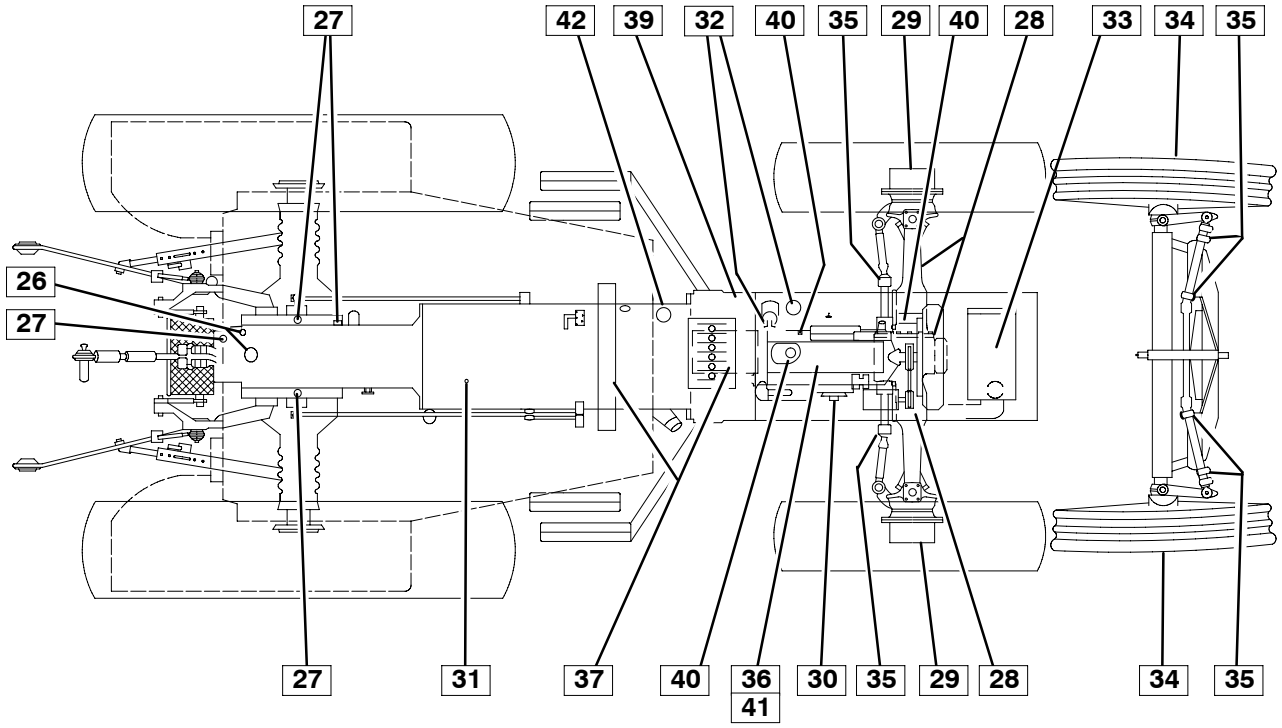
See page

26. Change oil and oil breather filter of the hydraulic system 80
27. Change oil in power transmission 80
28. Change oil in differential, 4–wheel drive 81
29. Change oil in hub reduction gears, 4–wheel drive 81
30. Clean hydraulic pump suction strainer 81
31. Clean fuel tank 82
32. Change prefilter and fuel filter of fuel system, when using over 5 % Biodiesel fuel at 500–hour 82
33. Change air filter and safety filter 82
34. Lubricate front wheel bearings, 2–wheel drive 83
35. Check and adjust toe–in of front wheels 83
36. Adjust valves 84
37. Change cab air filter and upper filter (extra equipment) 84
38. Tighten bolts and nuts of frame 84
39. Grease flywheel ring gear 84

G 4.5. Every 2000 hours/every other year

40. Clean coolant system 85
41. Check and clean injectors 86
42. Change brake fluid 86

NOTE: When carrying out servicing you must follow the service intervals, i.e., you must also do all previously mentioned items. For example, when doing 2000 hours service you must also do the servicing required at 1000, 500, weekly and daily.



A G2

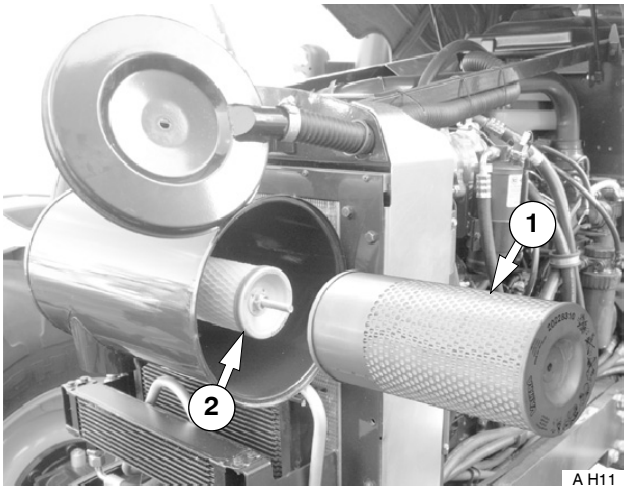
H. Periodic maintenance

H 1. General

Periodic maintenance for the extra equipment are in section K, after each extra equipment.

NOTE: When the tool symbol of periodic maintenance is illuminated in the display (Agroline instrument panel), the service work has to be carried out before the tool symbol is deleted.

H 1.1. Air filters



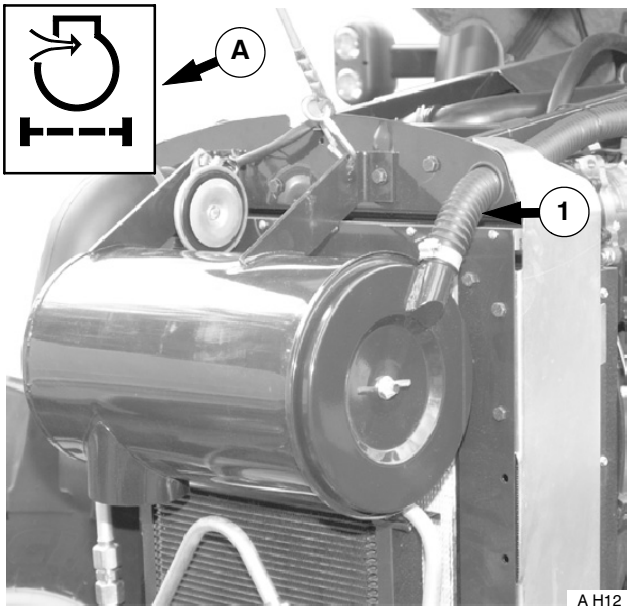
Change air filter (1):

– At least once a year
– After every 1000 hours
– After 5 cleanings, when the warning light of the air cleaner has illuminated 5 times

Change safety air filter (2):

– At least once a year
– After every 1000 hours

Unless it is necessarry do not open the cover of the air cleaner housing. Only associated with the situations mentioned before. During the maintenance check, that the cover of the housing, pipes and unions are in good condition.



A low–pressure indicator with a warning lamp is connected to the air cleaner. When the lamp (**A**) lights up on the instrument panel, the filter must be cleaned. If the warning light illuminates quickly in dusty conditions, check the ejector pipe (**1**) is fitted properly, the models A75n and A75L–A95L have dustvalve.

Cleaning:

– Always stop the engine before cleaning. A blockage of the air filter is indicated by a change of the engine beat, smoky exhaust and reduction of engine power.
– Check the inside of the air cleaner housing and the inlet pipe. Dirt on these parts indicates that the filter element is defective or has not been fitted properly.
– Clean the filter element with compressed air, max. pressure 500 kPa, or with an effective vacuum cleaner.

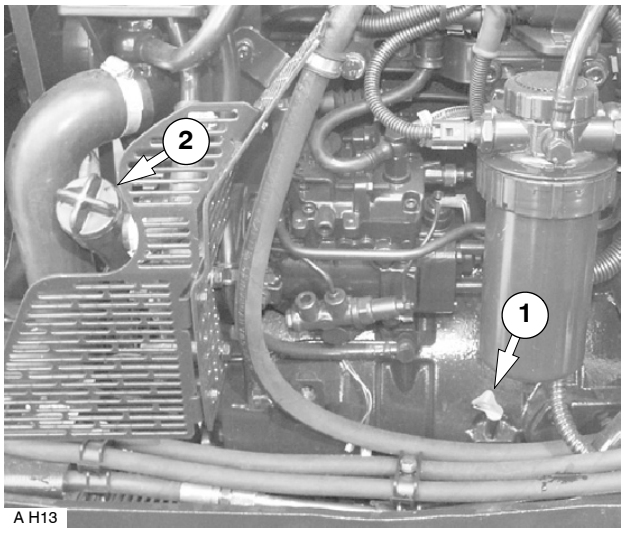
IMPORTANT: The filter element must not be cleaned more than 5 times, after which it must be replaced. The filter must be changed every 1000 hours in accordance with the maintenance requirement:– change of the safety filter.

– Hold up the filter element against the light (or shine a flashlight through the centre hole) and inspect the element.
– If any holes are noticed the filter element must be changed.

Filters fitting, see maintenance point 33 on page 82.

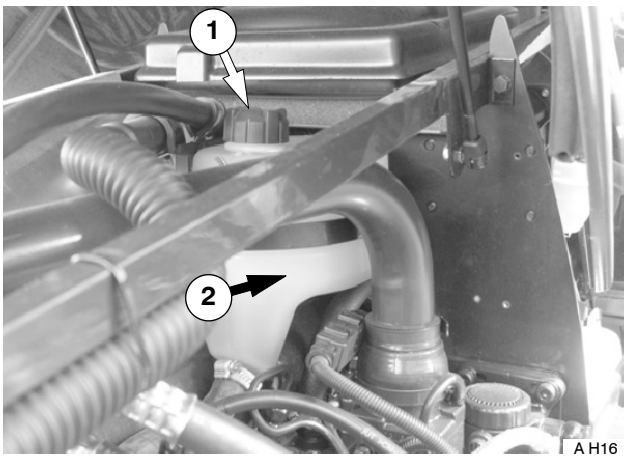
H 2. Maintenance daily at least every 10 hours

H 2.1. Check engine oil level (1)



The oil lever should come between the max. and min. marks on the dipstick (**1**). Adding oil should be done through the oil filler cap (**2**). Stop the engine and allow it to stand for a few minutes before checking the level so that all the oil has had time to run down into the sump. The distance between the marks corresponds to **1.5 liters** of oil. Oil quality is to be in accordance with the table on page 64.

H 2.2. Check coolant level and radiator fins and the front grille of the engine cover (2)



The expansion tank (**1**) has a liquid level sign (**2**) where the liquid level must be when it is cold. Hot liquid level is higher.

IMPORTANT: The coolant pump is provided with a drain hole underneath which must not be blocked. On a new engine a certain amount of leakage can occur before the pump has had time to run itself in.

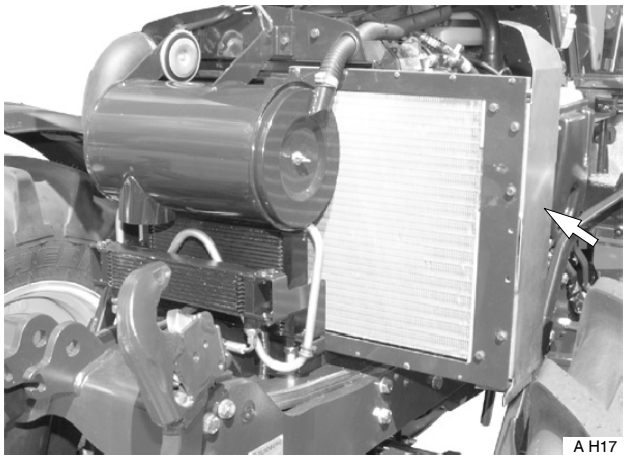
H 2.2.1. Freezing point of coolant

Check the freezing point of the coolant at the beginning of the cold season. If the freezing point is too high, drain off some of the coolant and top up with anti–freeze. Run the engine for a while until the anti–freeze has been mixed in, then re–check the freezing point of the coolant. Drain the cooling system completely every second year and refill with new coolant.

IMPORTANT: Never use just water as a coolant.

Ensure that a recommended coolant is always used.

H 2.2.2. Check also radiator grilles and clean if needed



When cleaning use air pressure, a water hose (not pressure washer) or a soft brush (be careful not to damage the cores). Direct the spray against the air streaming direction.

If the tractor has the air conditioning, its condenser can be moved sideways (by opening the locking nut on the left) for making the cleaning easier.

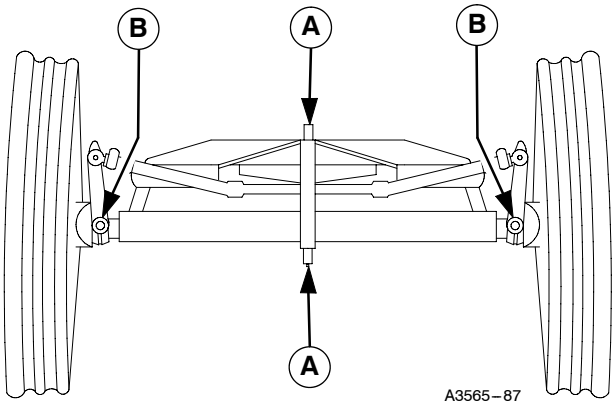
Clean also the front grille of the engine cover.

H 3. Maintenance weekly at least every 50 hours

H 3.1. Lubricate the front axle and steering nipples (3)

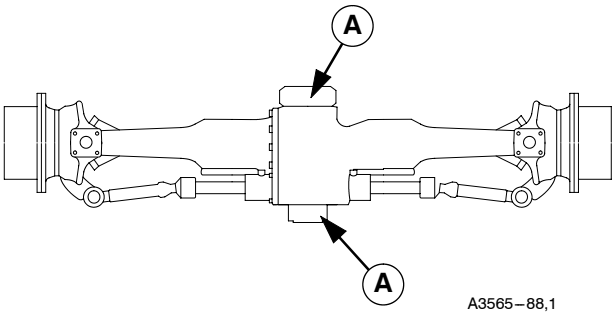
Use Valtra Universal Grease.

2–wheel drive models



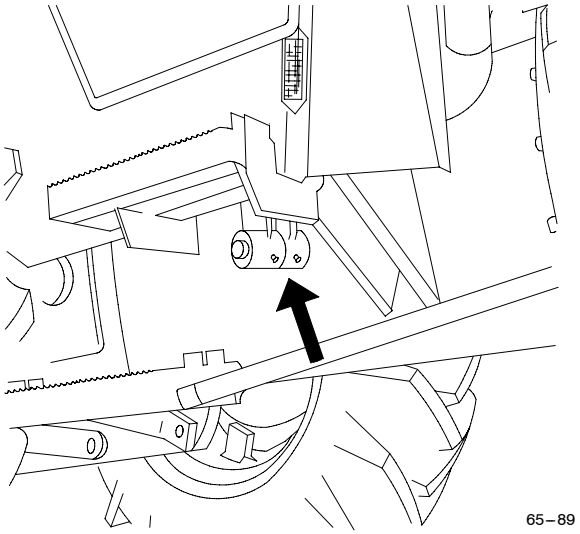
A. Front axle mountings: Lubricate the nipples (two) with grease (lift up the front end to take the weight off the axle).
B. Steering knuckles: Turn the steering wheel backwards and forwards when lubricating (2 pcs).

4–wheel drive models



A. Front axle mountings: Lubricate the nipples with grease (lift the front end to take the weight off the axle), 2 pcs.

H 3.2. Lubricate the brake and clutch pedals (4)

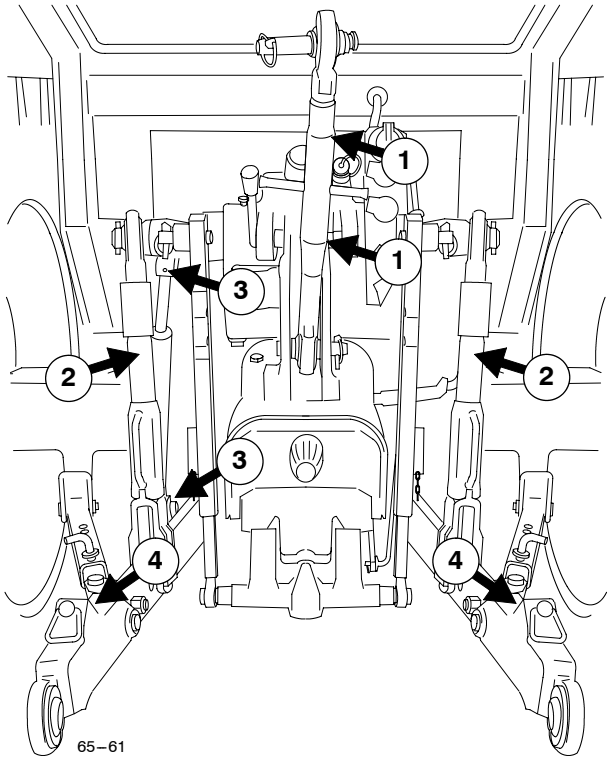


Use Valtra Universal Grease.

One nipple on left side for lubricating the clutch pedal bearing.

Two nipples on right side for lubricating the brake pedal bearings.

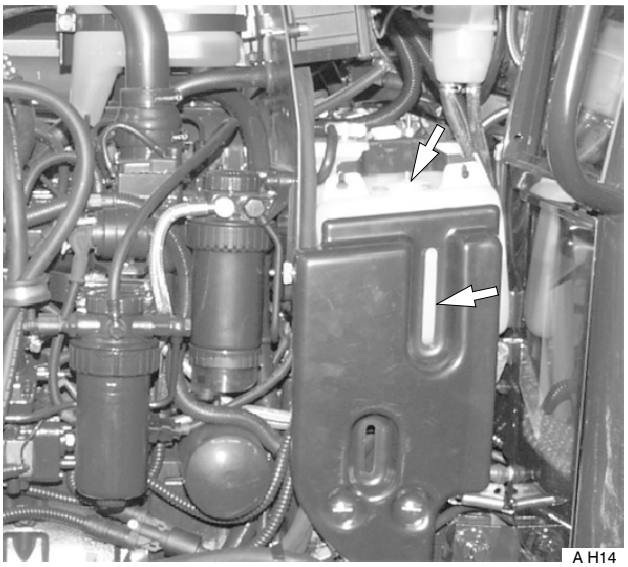
H 3.3. Lubrication of the three–point linkage (5)



Use Valtra Universal Grease.

– 1, the top link, 2 pcs
– 2, lifting links 2 pcs
– 3, extra cylinder 2 pcs
– 4, telescopic lower links 2 pcs (additional equipment)

H 3.4. Check fluid level in windscreen washer (6)



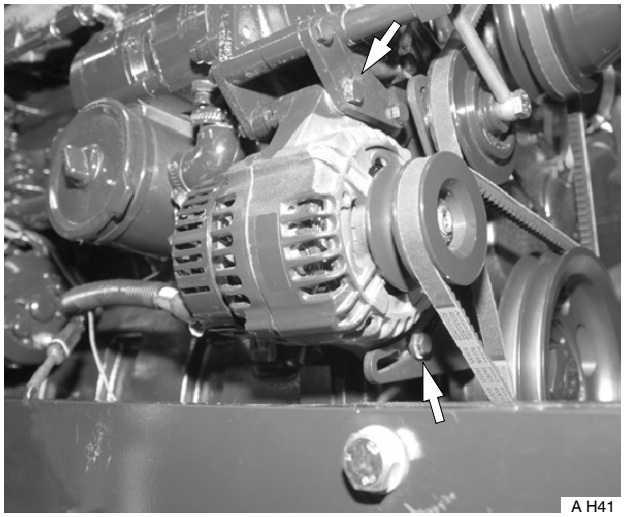
Check that there is always sufficient fluid in the container. Add washer fluid to the water. In winter use anti–freeze washer fluid. If the tractor is equipped with a rear window wiper , it has its own container in the rear of the tractor.

H 3.5. Check belts tensions (7)

The belts are suitably tensioned when they can be pressed in about 10 mm (0.79 in) with the thumb halfway between the belt pulleys.

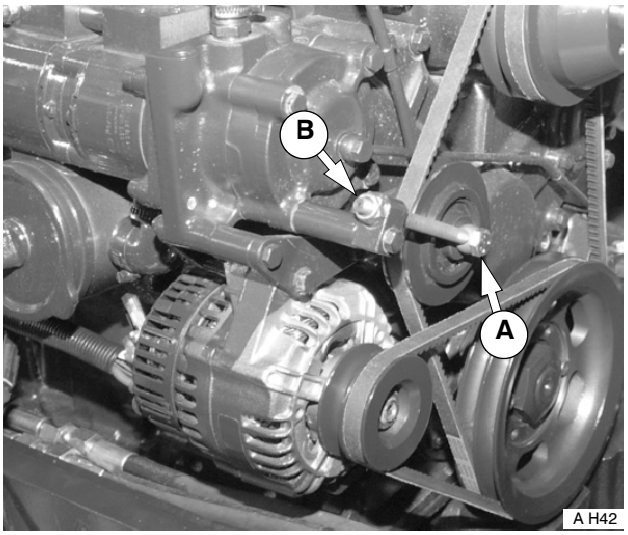
Check that the fan belts are in good condition when adjusting. Slack, worn and/or oily fan belts can cause problems with battery charging and the cooling system. Always keep spare fan belts handy.

H 3.5.1. Alternator belt



The alternator belt adjustment is done by turning the alternator in its fasteners. Remove the finger shield if necessary.

H 3.5.2. Water pump/coolant fan belt

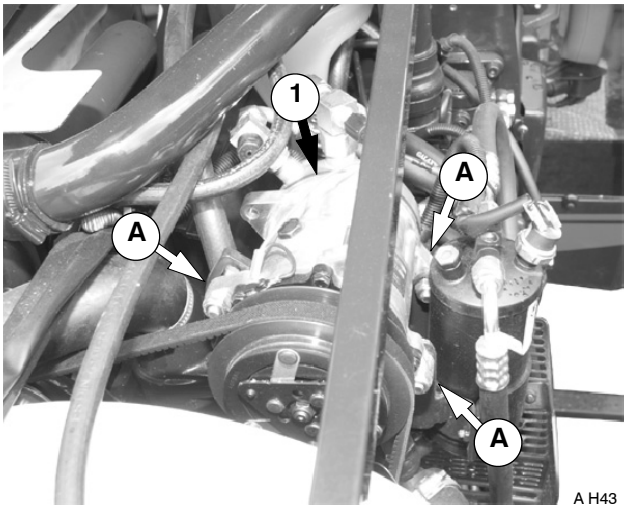


Tensioning belt

– Loosen the fastening of the adjustment belt pulley (**A**)

– Adjust through the adjusting rod (**B**) of the adjustment belt pulley
– Tighten the adjustment belt pulley

H 3.5.3. Air conditioning compressor belt (extra equipment)

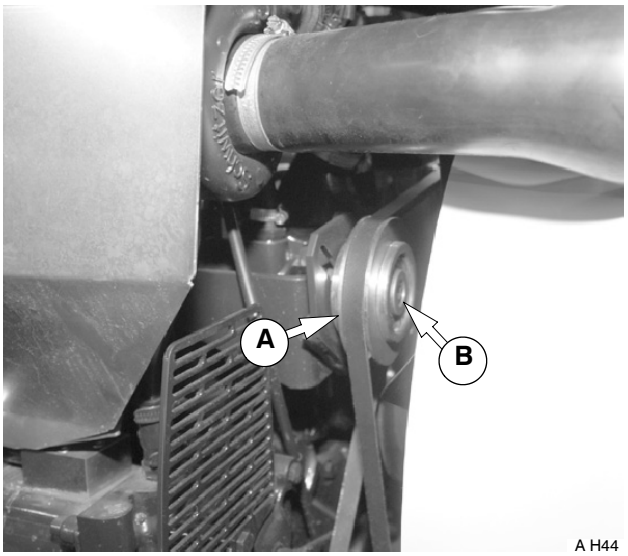


A H43

The adjustment is done by turning the compressor (**1**) in its fasteners. All the three attaching bolts (**A**) have to be slackened when doing the adjustment.

H 3.5.4. Air pressure compressor belt

(extra equipment)

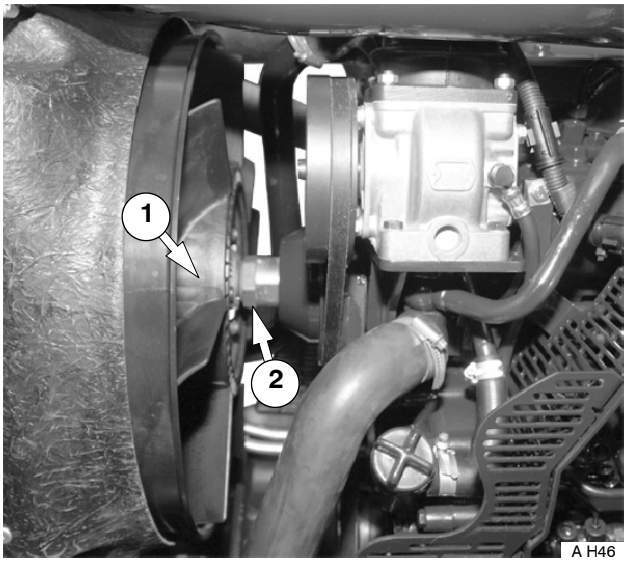


A H44

The pressure air compressor belt tension is adjusted with the adjustment belt pulley (**A**) by slackening the belt pulley nut (**B**).

H 3.5.5. Changing the belts

The fan has to be released from the belt pulley by opening the mounting bolts forward of the fan before changing the belt/belts (not alternator belt).

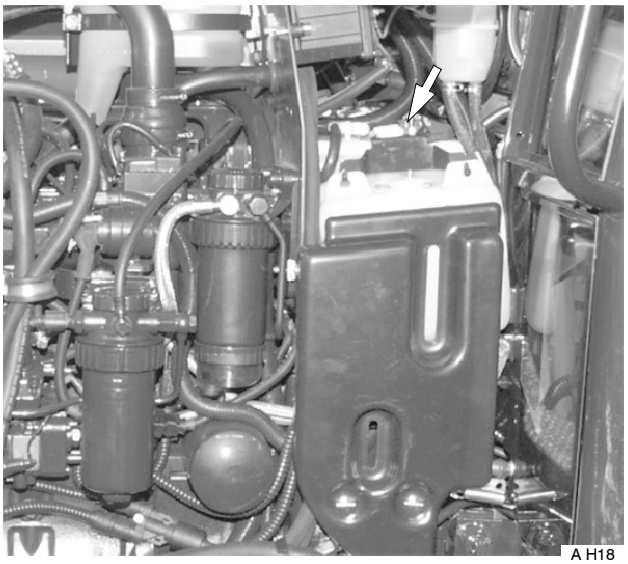


A H46

In open cab models when changing the belt loosen the Visco– fan (**1**) from the belt pulley by unscrewing the nut (**2**).The belt can be changed without detaching the fan.

IMPORTANT: The nut is left hand thread.

H 3.6. Check electrolyte level in battery (8)


A H18

Electrolyte level

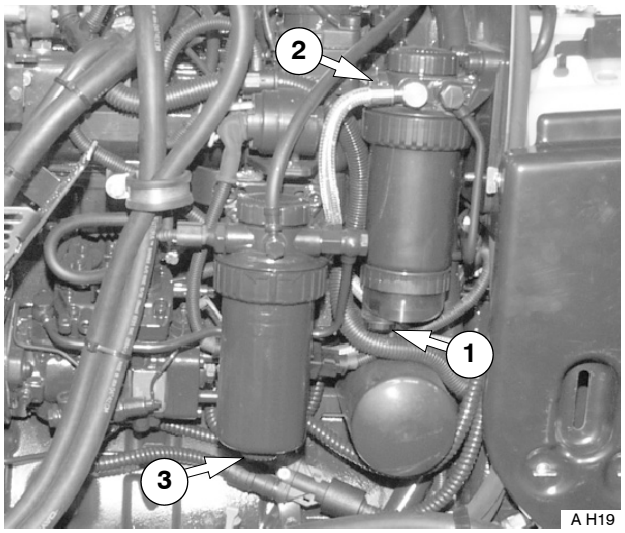
– The battery electrolyte level should be on the level marked on the battery. If the battery has not that mark check that the electrolyte level is approx. 5–10 mm (0.2–0.4 in) above the cell plates in the battery.
– Top up with distilled water if necessary.
– Never top up the battery with acid only and never use a naked flame when checking the electrolyte level.

NOTE: If the water in the battery evaporates too quickly, it may be a sign that the charging voltage is too high. Keep the outside of the battery clean and dry. Protect the battery and cable terminals with special grease.

IMPORTANT: In winter it is very important to allow the engine to run for a little while after topping up with distilled water, otherwise the water can freeze before it has mixed properly with the battery acid.

WARNING: Be carefully with the battery solution – danger from corrosion!

H 3.7. Check prefilter and fuel filter (9)



Drain the prefilter by opening the tap (**1**) a little in the bottom of the prefilter. By opening the airscrew (**2**) in the upper part of the prefilter water comes out easier. After draining water close the tap and the airscrew.

Drain the prefilter more often to reguired.

Drain water from the fuel filter by opening the tap (**3**) in the bottom of the filter. Close the tap.

Drain the fuel filter more often if reguired.

Bleed the fuel system if necessary, (see “Checks and Adjustments on page 88).

H 3.8. Check tyre pressures (10)

NOTE: Check tyre pressures frequently (values are listed in the Technical Specifications on page 102).

DANGER: Avoid over inflation as excess pressure may cause the tyre to explode.

It is recommended that the changing of tyres and wheels is carried out in a professional tyre workshop which is equiped to handle this type of work.

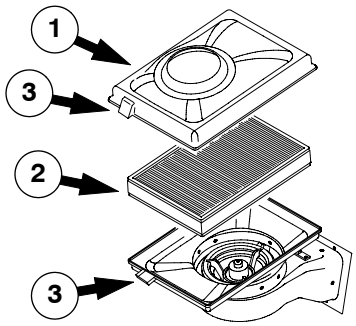
DANGER: When welding the discs the tyre must be away from the rim/ disc, DANGER OF EXPLOSION!

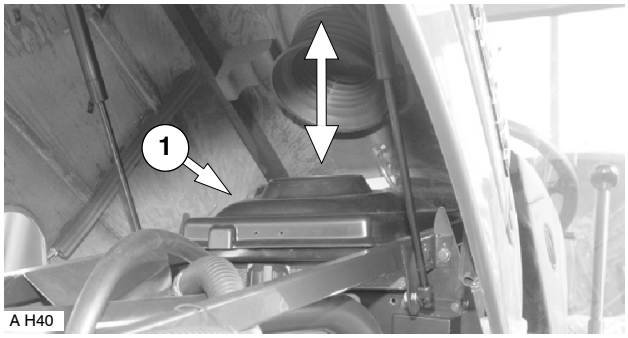
When mounting the tyre on the disc the pressure limit is 250 kPa. If the tyre does not go on the disc properly, remove it and refit. When the tyre is positioned correctly on the disc, inflate to correct pressure.

H 4. Maintenance every 500 hours

H 4.1. Clean cab air filter and also upper filter (extra equipment) (11)

Clean lower filter

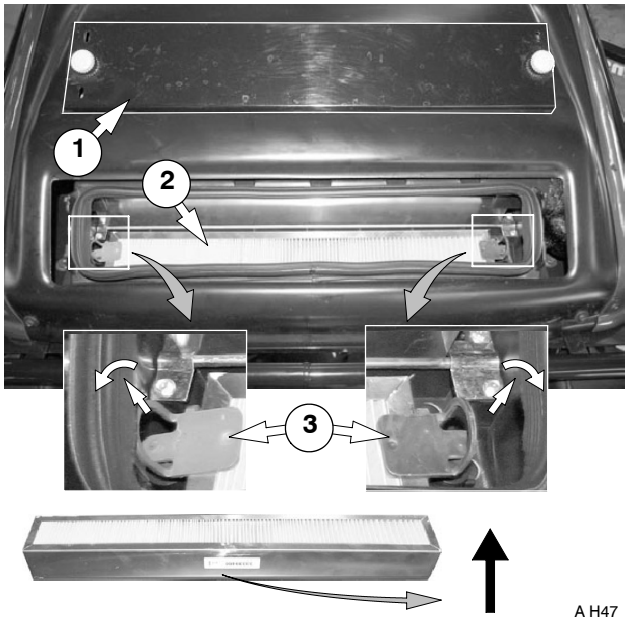




– Lift up the filter housing cover (**1**)
– Remove the filter element (**2**) and knock it with the palm of the hand, use a vacuum cleaner from the direction air goes in or blow it clean with compressed air from the centre outwards. Make sure that the air pressure is not too high. Check the condition of the filter. Always change a damaged filter.
– Refit the filter element. Fit the cover right, the guides (**3**) face to face.

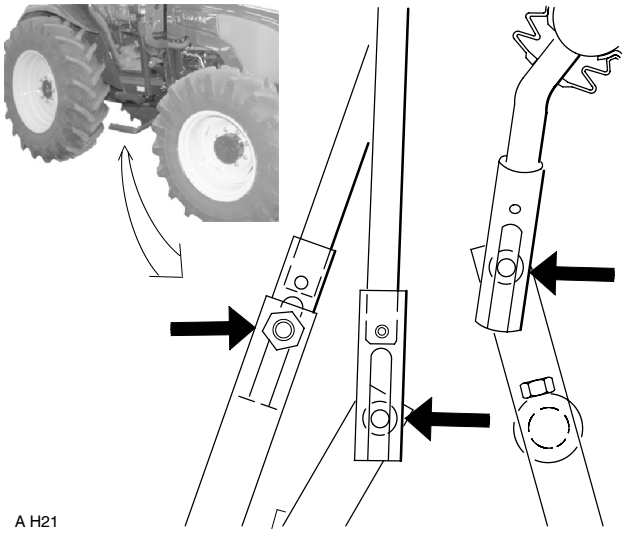
WARNING: The air filter element does not remove chemicals from the outside air.

Clean upper filter (extra equipment)



– Remove the air cleaner housing cover (**1**).
– Pull the mounting links (**3**) of the filter element (**2**) up and turn to the arrow direction
– Remove the filter element and clean as the lower filter
– Fit the filter element, the arrow pointing upwards

H 4.2. Lubricate gear lever joints (12)



Carefully clean joint before lubricating. Lubricate the joint with Valtra Grease Moly.

H 4.3. Check wheel nuts (13)

NOTE: Check torque of wheel nuts (also rim/wheel discs) frequently (values are listed in the Technical Specifications on page 101).

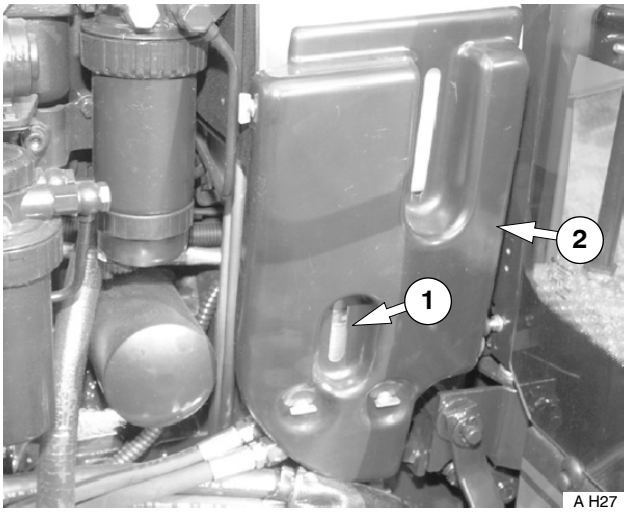
H 4.4. Check brake fluid level (14)

A H22

The fluid level should be between the max. and min. marks. Top up with new fluid as necessary, see recommended fuel and lubricants on page 64.

WARNING: Normally there will be no need to top up the fluid. If leakage has occurred, it must be repaired immediately, before driving. If necessary, contact the authorized Valtra–workshop.

The brake fluid level should be checked frequently. Use recommended fluid only.



A H27

If the tractor is equipped with the push buttons for HiShift as extra equipment, check the brake fluid level through the hole of the shield (**1**). If brake fluid has to be added, loosen the shield (**2**).

A H28

Add fluid until the level is between the min. and max. marks.

WARNING: Brake fluid is corrosive and poisonous and must be handled carefully at all times (it also corrodes the paint).

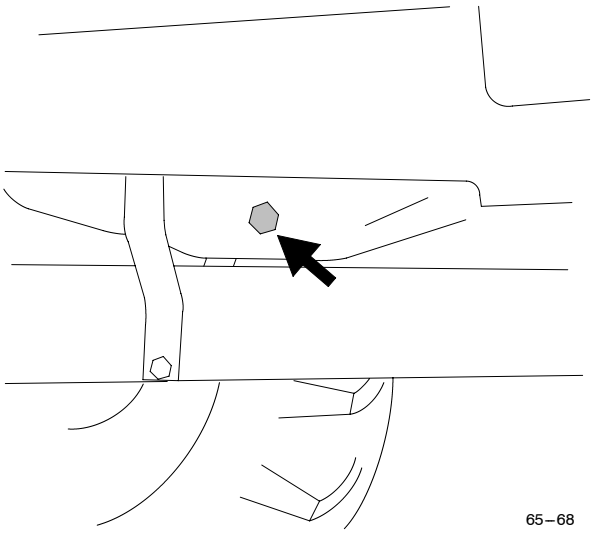
H 4.5. Grease door hinges (15)

There are nipples on door hinges. Use Valtra Universal Grease.

H 4.6. Change engine oil and engine oilfilter (16)

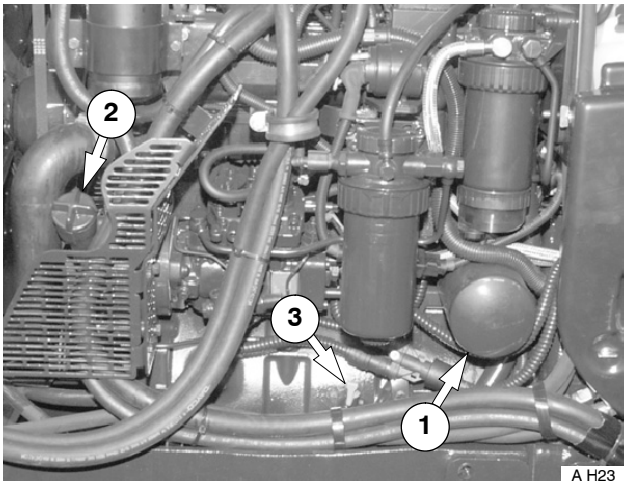
In extremely dusty conditions or when using over 5 % Biodiesel fuel, the oil and filters should be changed every 250 hours.
If the amount of operating hours is low, the oil and filters should be changed at least once per year.

H 4.6.1. Draining



Remove the drain plug and allow the oil to run out into a suitable container. Drain the oil while the engine is warm (makes draining quicker particularly in cold weather). Clean the plug and replace it.

H 4.6.2. Changing oil filter



– Remove the oil filter (**1**) by unscrewing it
– Wipe off the oil which has run out on the chassis
– Oil the new gasket
– Tighten the new filter by hand (not too hard).

H 4.6.3. Crankcase ventilation

When changing the oil always check that the ventilation pipe is clean and not blocked.

H 4.6.4. Filling

Oil quality is to be in accordance with the table on page 64.

Fill up with new oil to the prescribed level (upper mark on dipstick **3**) through the filler opening (**2**).

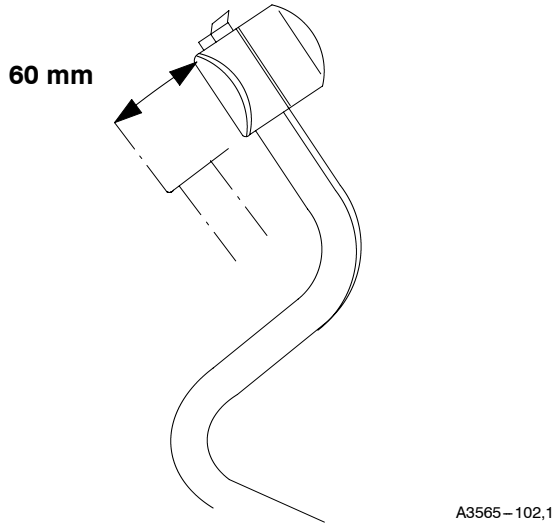
Oil volume incl. filter

–A75n, A75L–A95L ..... **7 l**
–A85n, A95n ..... **9 l**

Filter capacity **0.5 l**.
The distance between max and min marks on the dipstick corresponds to **1.5 liters** of oil.

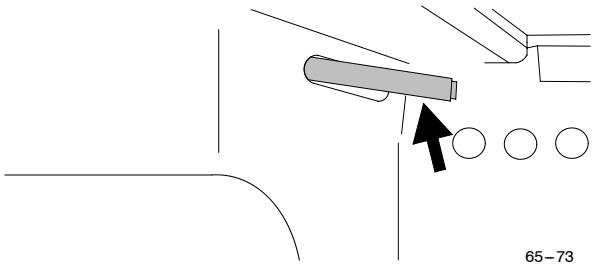
Then start the engine in the normal way. Allow the engine to idle for a little while and check the oil level again.

H 4.7. Check free travel of brake pedals (17)



The free travel should be **60 mm** (2.4 in) when the pedals are connected together. Adjust the free travel if necessary (see under **" Checks and adjustments"** on page 94).

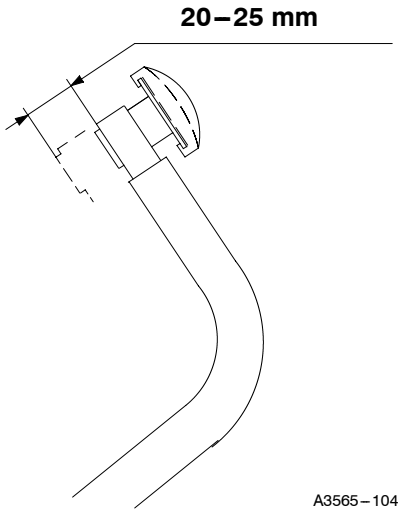
H 4.7.1. Adjusting parking brake



The parking brake acts on the foot brake mechanism mechanically by means of a rod.

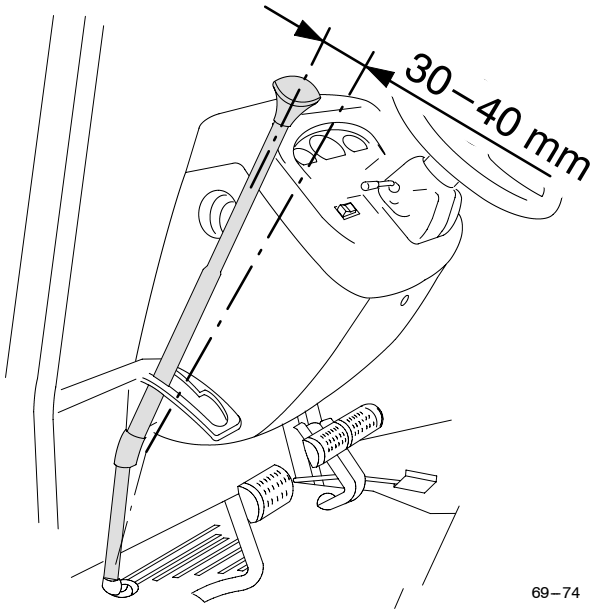
Adjust the free travel if necessary (see under **" Checks and Adjustments"** on page 94).

H 4.8. Check pedal free travel of propulsion clutch (18)



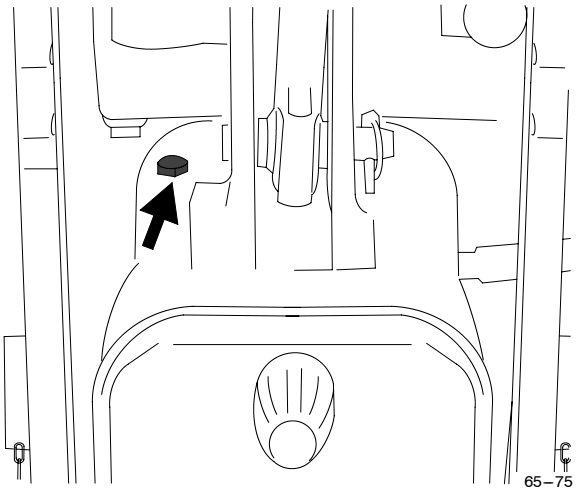
Slowly press down the clutch pedal until the clearance is taken up and declutching begins. The free travel should be **20–25 mm**. Adjust the free travel if necessary (see under **"Checks and Adjustments"** on page 93).

H 4.9. Check the travel of PTO lever (19)



The free travel at the end of the lever should be **30–40 mm**. Adjust the free travel when necessary (see under **"Checks and Adjustments"** on page 93).

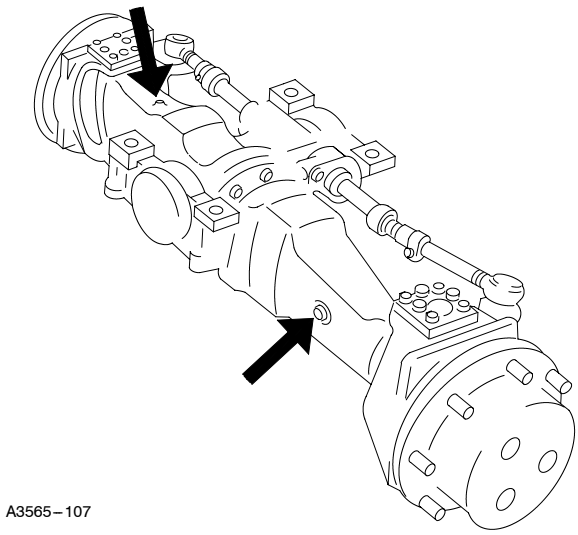
H 4.10. Check oil level in power transmission (20)



The oil level should come between the max. and min. marks on the dipstick. Top up with oil when necessary. Oil quality should be in accordance with the table on page 64.

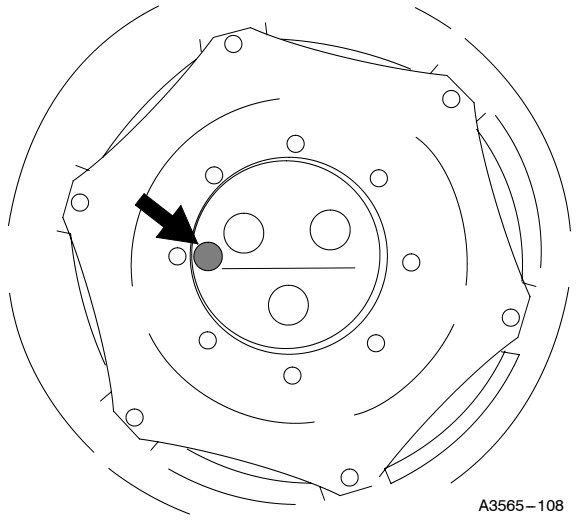
The distance between max and min marks on the dipstick corresponds 3 liters of oil.

H 4.11. Check oil level in differential 4–wheel drive (21)



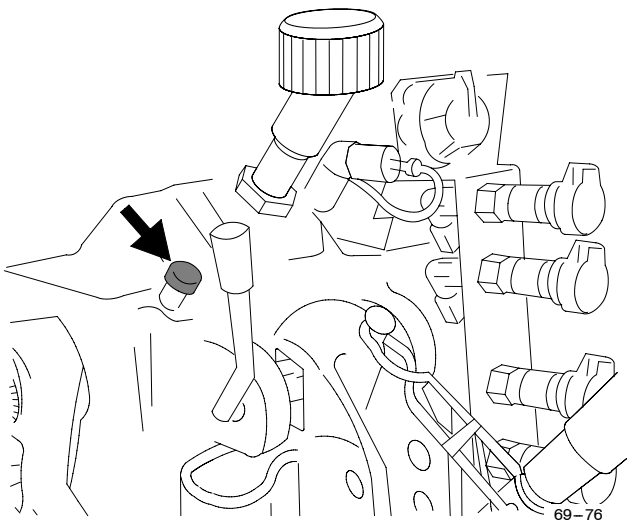
The oil lever should come up to the filling plug hole. Top up when necessary.
Oil quality should be in accordance with the table on page 64.

H 4.12. Check oil level in hub reduction gears, 4–wheel drive (22)



Turn the wheel until the oil surface indicator line is horizontal. The oil surface should be level with the hole. Add more oil if necessary. Oil quality should be in accordance with the table on page 64.

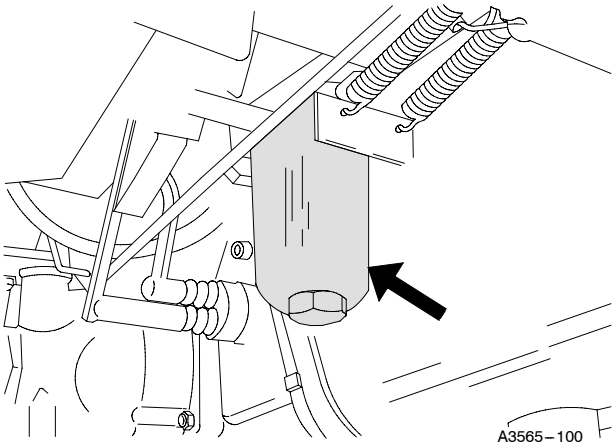
H 4.13. Check hydraulic oil level (23)



When the hydraulic system is filled to the minimum mark on the dipstick the total volume of oil is **25 l**, of which **14 l** is available for the auxiliary hydraulics.

It is, however, recommended that the system be filled to the maximum mark on the dipstick (total volume =**35 l**). In this case **24 l** is available for the auxiliary hydraulics. Adding oil, see point 26 change oil in hydraulic system. Oil quality should be in accordance with the table on page 64.

H 4.14. Change pressure filter in hydraulic system (24)



– Clean surrounding parts
– Loosen the filter and take out the element
– Wash the filter housing with diesel fuel and fit the new element (oil the seal first). The seal must always be changed.
– Tighten the filter with a suitable wrench to a torque of **200 Nm**.

IMPORTANT: Always change the filter when carrying out repairs caused by impurities in the hydraulic system.

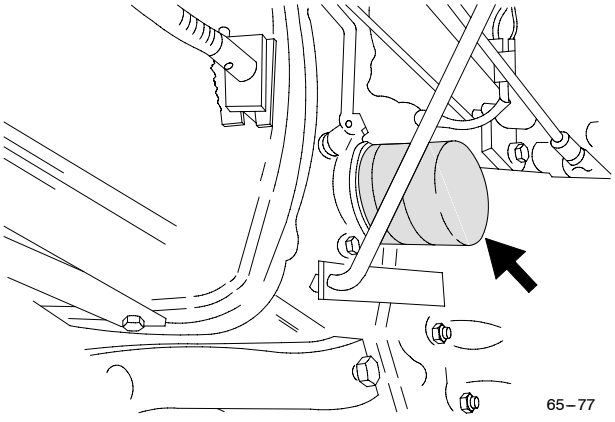
Clean suction strainer as described earlier (see service at 1000 hours intervals page 81).

IMPORTANT: If the external hydraulics are used extensively and no return oil filter is used, the filter must be changed ever 250 hours.

If the external hydraulics are used extensively it is recommended that a return filter should be mounted in the line (extra equipment).

On tractors with a return filter, all oil which is returning from the outside machine, goes through the return filter. Follow to changing intermediate on the return filter.

H 4.15. Change oil filter in transmission (25)

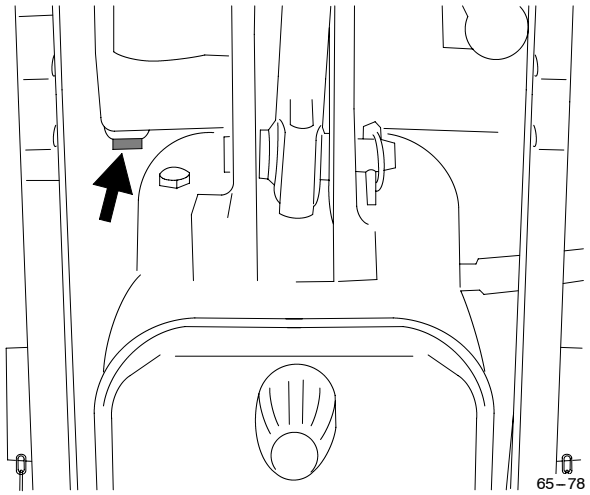


– Clean surrounding parts and remove the filter
– Oil a new seal and fit the new filter. Tighten by hand (not too tight).

H 5. Maintenance every 1000 hours or yearly

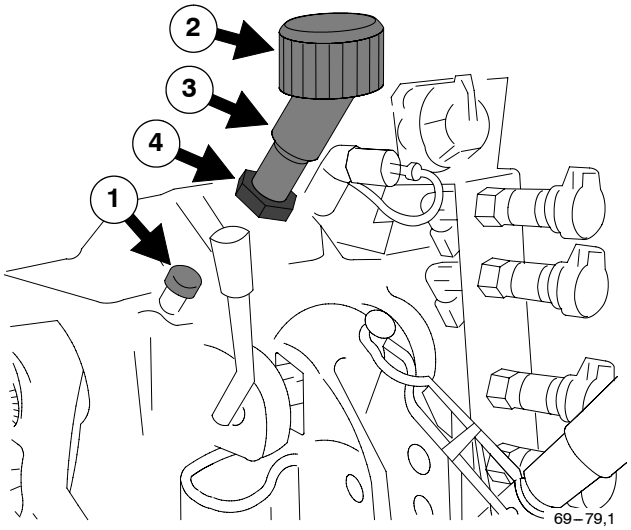
H 5.1. Change oil and oil breather filter in hydraulic system (26)

Draining



– Run the tractor for warm up the hydraulic oil.
– Remove the drain plug and drain off the oil
– Clean the plug and replace it in again

Refilling

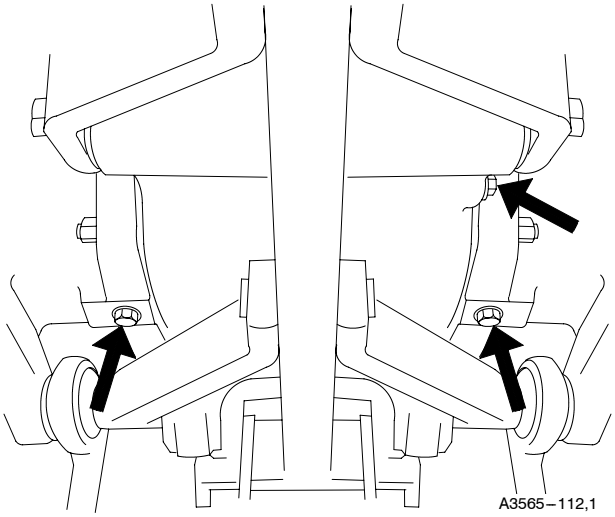


– For refilling the oil, first open the breather filter (**2**) together with the fastening tube (**3**) by opening the locking nut (**4**) (hole inside the breathers fastening tube is too small for refilling the oil).
– Refill with new oil through the filling cap. The lower mark on the dipstick (**1**) corresponds to 25 l, the upper mark to 35 l. The system may be filled to any level between these two points.
– Subsequent to refilling, the engine should be started and the hydraulic lift operated for a short time, after which the level should be checked again. Replace the breather filter (**2**) and adjust it with fastening tube (**3**) so that the filter top is horizontal.

Where the larger quantity is recommended, 35 l, the oil level should come up to the upper mark on the dipstick which is fitted on the oil filler cap. Then 24 l can be taken out for auxiliary hydraulics.

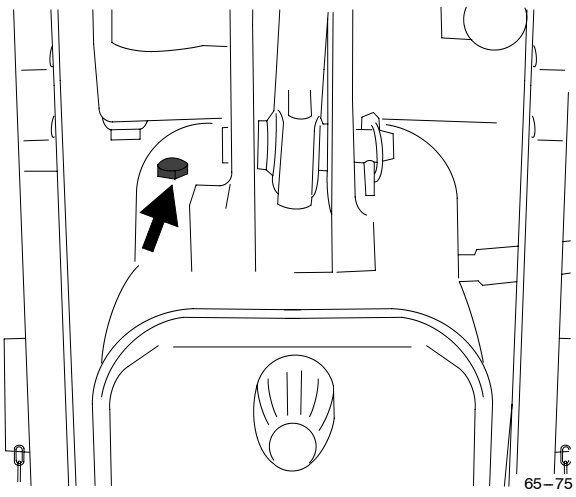
H 5.2. Change oil in power transmission (27)

Draining



– Run the tractor to warm up the transmission oil.
– Remove the plugs under the gearbox and final drive gears and allow the oil to run out into a suitable container.
– Clean the plugs and screw them in again.

Filling

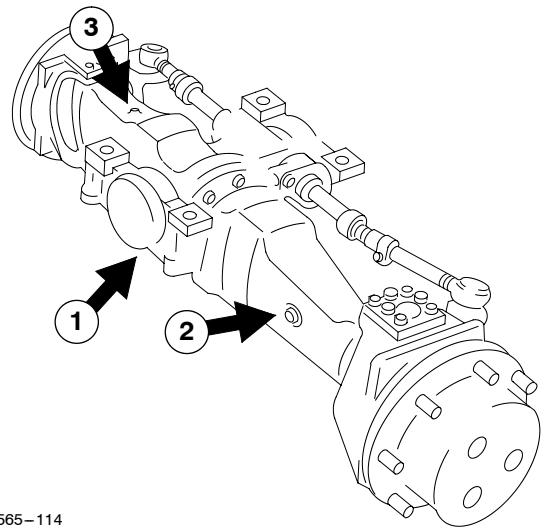


Oil quality should be in accordance with the table on page 64.

– Remove the plug on the dipstick opening
– Fill up with new oil to the upper mark on the dipstick.

Oil quantity is 32 l. The distance between max and min marks on the dipstick corresponds to **3 liters** of oil.

H 5.3. Change oil in differential, 4–wheel drive (28)

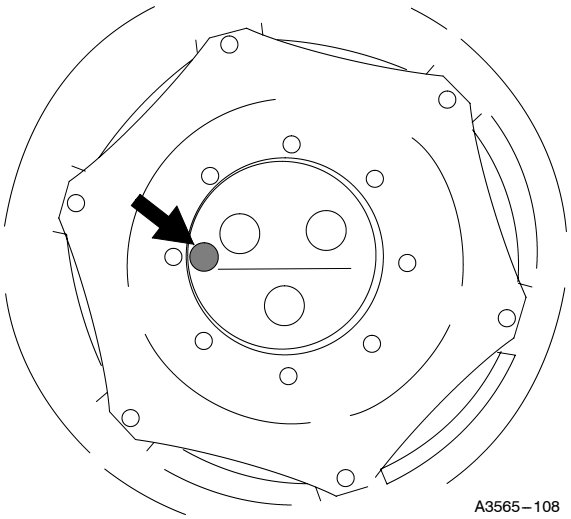


A3565–114

Remove the drain plug (**1**). Clean the plug and screw it in again. Fill up with new oil through the filling opening (**3**) to the lower edge of the level plug (**2**).

Oil volume 6.5 l
Oil quality should be in accordance with the table on page 64.

H 5.4. Change oil in hub reduction gears, 4–wheel drive (29)

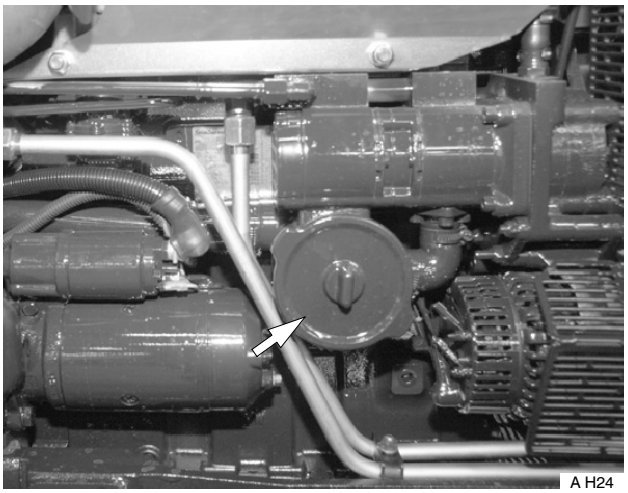


A3565–108

Unscrew the plug and drain the oil. Turn the wheel until the line of the inspection hole is horizontal and fill up with oil to the level of the hole.

Oil volume 2 x 1 l
Oil quality should be in accordance with the table on page 64.

H 5.5. Clean hydraulic pump suction strainer (30)



A H24

IMPORTANT: In work where the hydraulic system is subjected to abnormally heavy pollution (e.g. when running with tipping trailers) the suction strainer must be cleaned at shorter intervals. If the pump begins to ”shriek”, the engine should be stopped, the suction strainer cleaned and the viscosity of the oil checked against the manufacturer’s recommendations.

H 5.5.1. Removing and cleaning

– Place the tractor with the front end higher so that less oil runs out.
– Loosen the wing nut on the end of the housing and place a funnel or similar under the housing to collect up the oil.
– Remove the cover and drain off the oil into a suitable container.
– Carefully pull out the element.
– Clean the element with diesel fuel and dry with compressed air.
– Also clean the magnetic plugs.

H 5.5.2. Fitting

– Place the cleaned element in the housing
– Replace the cover together with the seal and tighten the wing nut by hand
– Check the oil level in the hydraulic system.

IMPORTANT: Look for any foaming of the oil when starting up again (check through the filling opening). Foaming indicates that the cover seal is leaking and must be changed or retightened.

H 5.6. Clean fuel tank (31)

Always clean the fuel tank at the start of the winter season. This avoids problems with condensation in the fuel tank. Always make sure that the tank is as full as possible so that condensation is prevented.

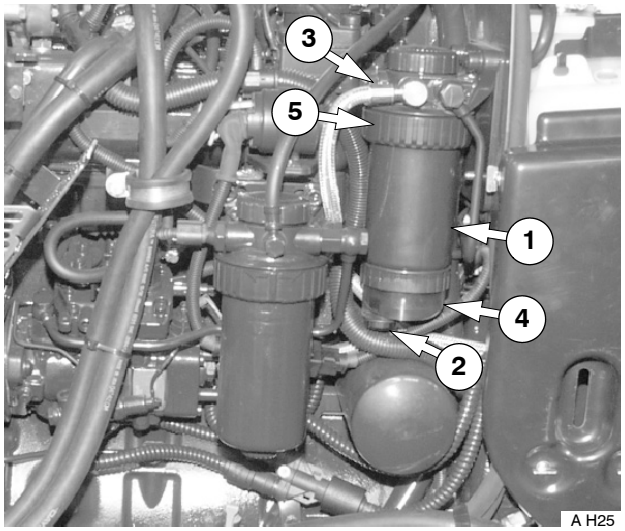
– Empty the tank and rinse it with clean diesel fuel. Screw in the drain plug again.
– Fill up with new fuel (if you suspect that fuel is not clean, use a fine gauze strainer).

IMPORTANT: Never use spirit as anti–freeze agent in the fuel, as this could cause blockage of the fuel filter and impair the lubricating properties of the fuel.

H 5.7. Change prefilter and fuel filter (32)

When using over 5 % Biodiesel the changing is every 500 hours.

Change prefilter

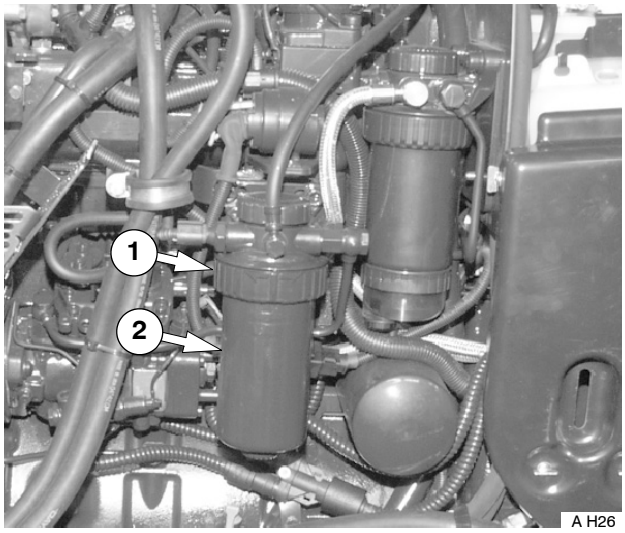


A H25

IMPORTANT: Remove the filter by hand, do not use a filter–wrench.

– Slightly open the drain cock (**2**) at the lower part of the prefilter (**1**) and drain the fuel into a container, NOT ON THE GROUND.
– If the bleeder–screw is opened (**3**) in the prefilter's mounting frame, the fuel drains more easily. After draining has been completed, close the bleeder–screw.
– Unfasten the water trap (**4**) from the prefilter.
– Turn the prefilter lock (**5**) to open and remove prefilter (**1**).
– Set new filter in place. **NOTE:** The filter can be set in place only in one position.
– Turn the prefilter lock in direction (ON), until you hear a click.
– Fasten the water trap to the lower part of the prefilter.

Change fuel filter



A H26

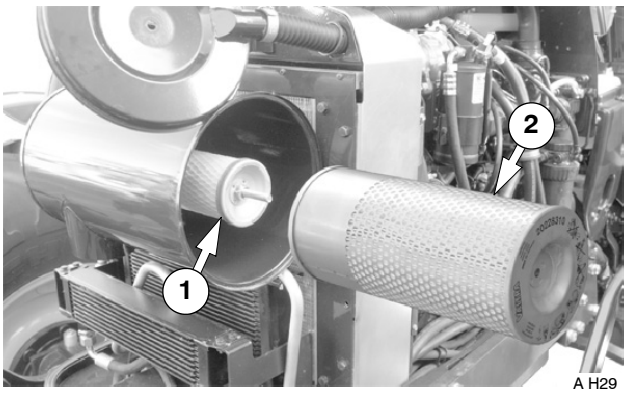
IMPORTANT: Remove the filter by hand, do not use a filter–wrench.

– Turn the prefilter lock (**1**) to open and remove prefilter (**2**).
– Set new filter in place. **NOTE:** The filter can be set in place only in one position.
– Turn the prefilter lock in direction (ON) until you hear a click.

IMPORTANT: If needed change the filters more often.

After changing the filters bleed the fuel system (see under "Checks and Adjustments" on page 88).

H 5.8. Change air filter and safety filter (33)



A H29

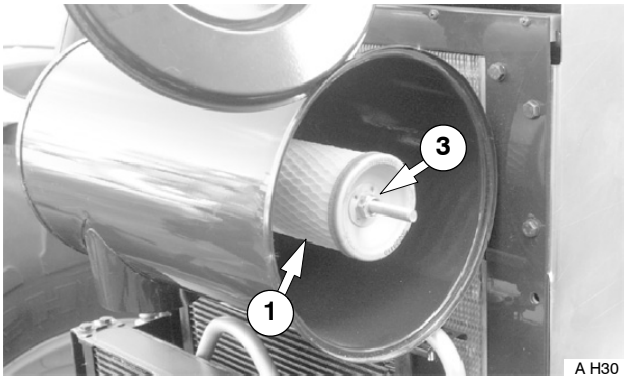
The main air filter (**2**) has to be changed no later than 1000 hours together with the safety filter (**1**) if it has not been cleaned already 5 times and changed earlier.
The safety filter protects the engine if the main filter should become damaged. The safety filter must not be cleaned, it should always be changed.

IMPORTANT: Never run the tractor without the safety filter.

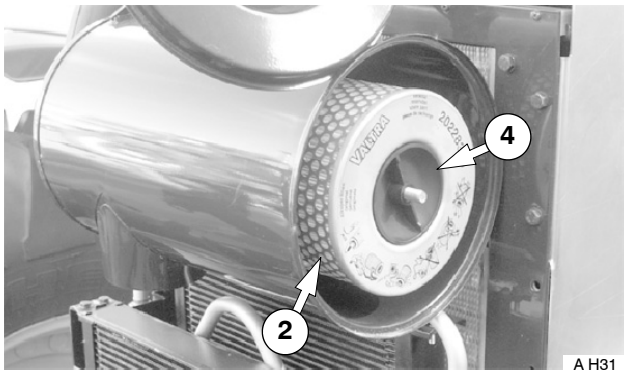
Take great care when removing the safety filter so that no dirt enters the inlet pipe.

– Take out the main filter (**2**)
– Remove the safety filter (**1**)

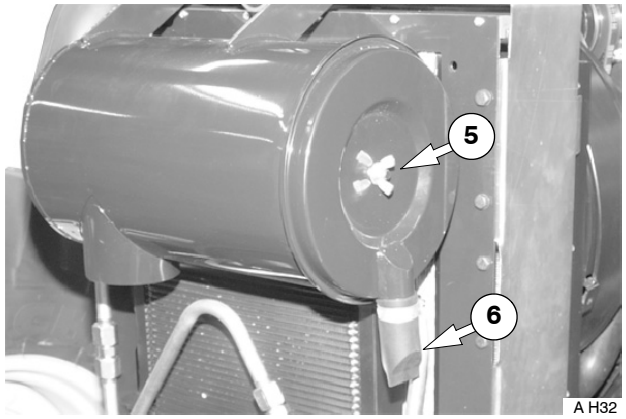
Filters fitting



– Check that, the seals are in good condition
– Check that, the sealing surfaces are clean
– Fit a new safety filter (**1**) and make sure that it is correctly positioned in the housing. Tighten the nut (**3**) carefully.

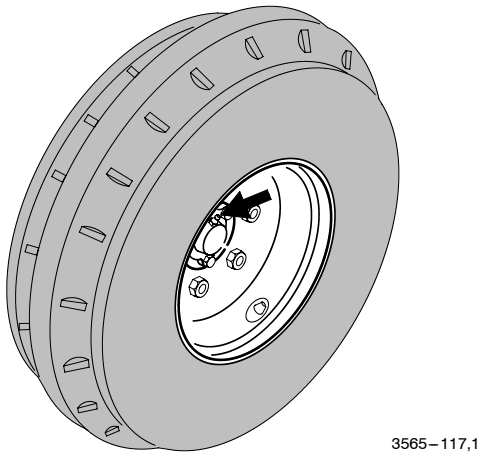


– Fit the main filter (**2**) carefully. Tighten the nut (**4**), on the filter until the filter has come into contact with the end of the housing.



Do not tighten the nut (**5**) on the cover of the air cleaner housing too tight (approx 1 – 1.5 turns after the flange seal has come into contact with the surface of the housing). On models A75n and A75L – A95L the cover of the housing must be mounted so that the outlet pipe (**6**) is in the lower position.

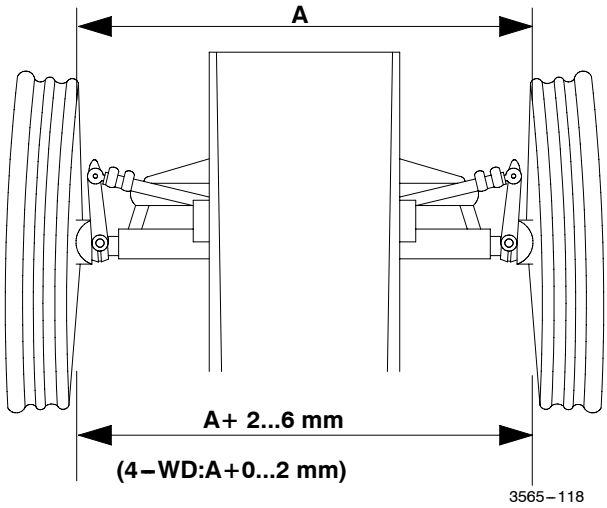
H 5.9. Lubricate front wheel bearings (34) (2WD)



Use Valtra Universal Grease.

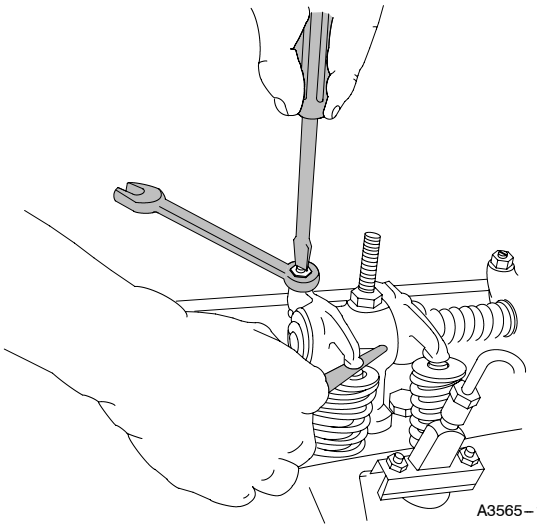
In dusty and muddy conditions, it is necessary for lubrication to be carried out much more often. When injecting new greese, ensure that enough is injected so that it pushes the dirt out of the hub.
Check also the bearings tightness and if necessary have them adjusted at an authorized workshop.

H 5.10. Check and adjust toe – in of front wheels (35)



See under "**Checks and Adjustments**" on page 95.

H 5.11. Check and adjust valve clearance (36)

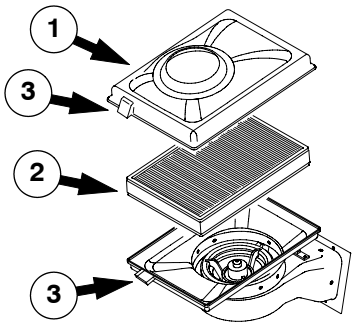


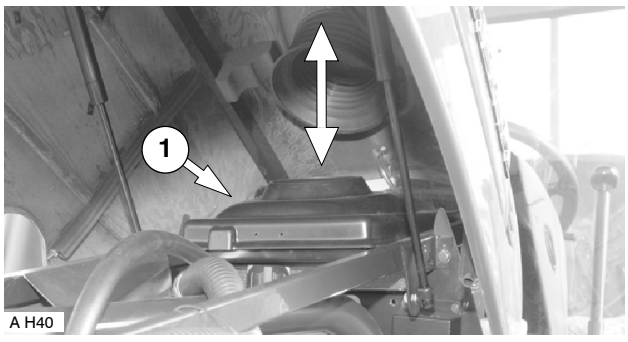
Both inlet and exhaust valves should have a valve clearance of **0.35 mm** (0.014 in). The valve clearance can be adjusted when the engine is either warm or cold.

Checking and adjustment should be carried out by an authorized workshop.

H 5.12. Change cab air filter and upper filter (extra equipment) (37)

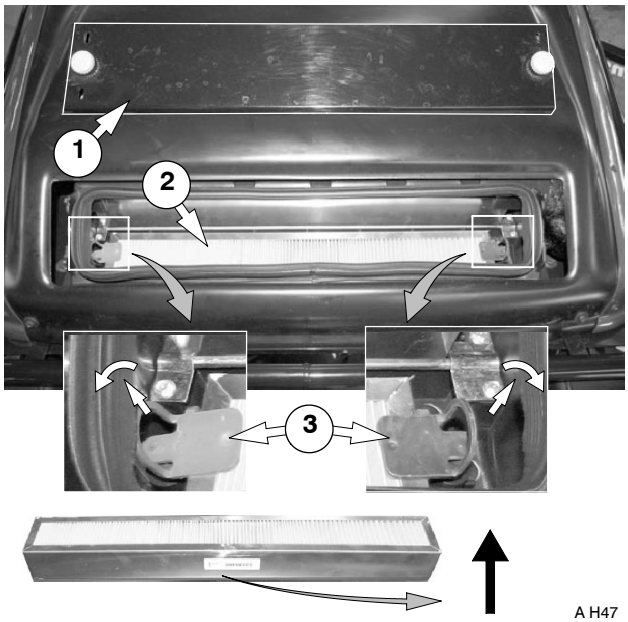
Change lower filter





Lift up the filter housing cover (**1**) and replace the filter (**2**) with a new one (fit the cover correctly, the guides (**3**) face to face). Change filter more often if necessary.

Change upper filter (extra equipment)



– Remove the air cleaner housing cover (**1**).
– Pull the mounting links (**3**) of the filter element (**2**) up and turn to the arrow direction
– Remove the filter element and replace the filter with a new one
– Fit the filter element, the arrow pointing upwards

H 5.13. Tighten frame nuts and bolts (38)

H 5.14. Grease flywheel ring gear (39)

Remove first the shield. On the left–hand side of the clutch housing there is a hole (remove the shield plug) through which the ring gear can be greased. Apply a little grease (one stroke with a grease gun) at a few points on the ring gear. With use the grease will spread round the gear. Use Valtra Moly Grease, about 1 cm^3.

H 6. Maintenance every 2000 hours or every other year

H 6.1. Clean coolant system (40)

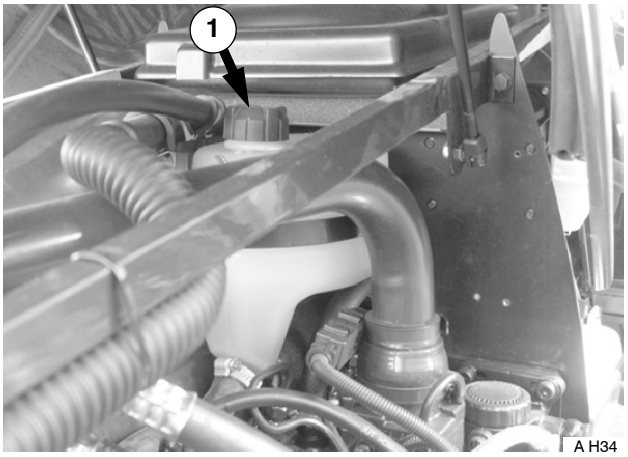
Periodically check and clean the outside of the radiator by means of compressed air or by flushing through with water. Also clean from the fan side of the radiator.

The cooling system can be thoroughly cleaned if problems occur in the function, in which case clean as follows.

Clean the coolant system using a special cleaning agent available from your dealer. Follow the manufacturer's instructions.

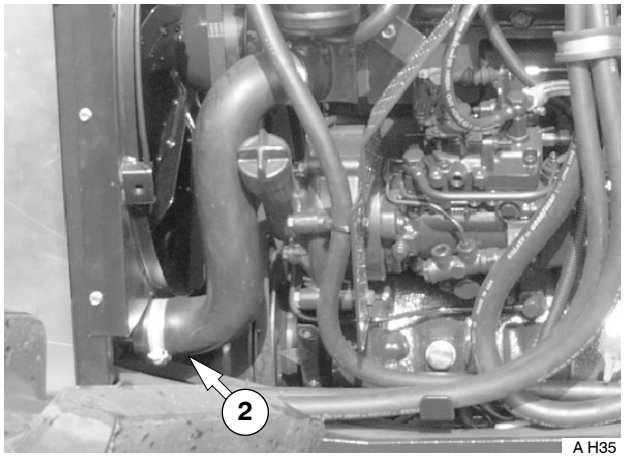
H 6.1.1. Draining

Always stop the engine before draining the coolant.



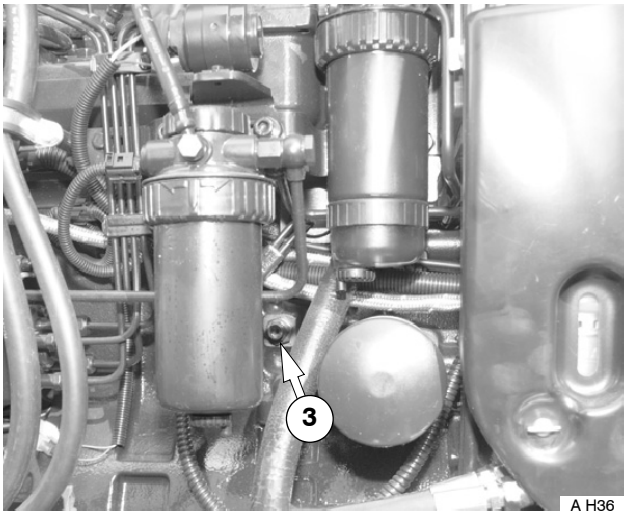
A H34

– **ALWAYS open the cap (1) of the expansion tank first. carefully. At running temperature the expansion tank has overpressure (1.0 bar).**



A H35

– Loosen the lower water pipe (**2**) (remove the finger shield if necessary). The best way to drain the system is to loosen the upper end of the pipe and then loosen the lower end, then the pipe can be bent to the side and the fluid drained into a container.



A H36

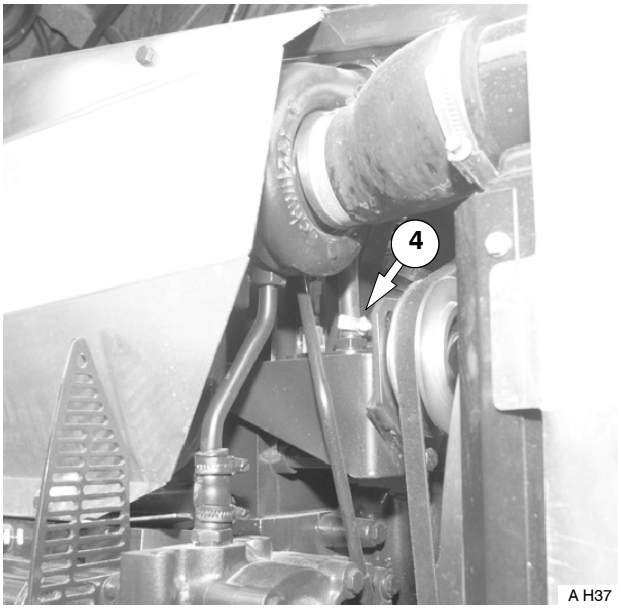
– Open the tap (**3**) on the cylinder block
– Turn on the heater control in cab. Drain the fluid into a container.
– Drain the water pump by cranking the engine a few revs with the drain plugs removed.

H 6.1.2. Filling

Mix the antifreeze and water according to the manufacturer's instructions.

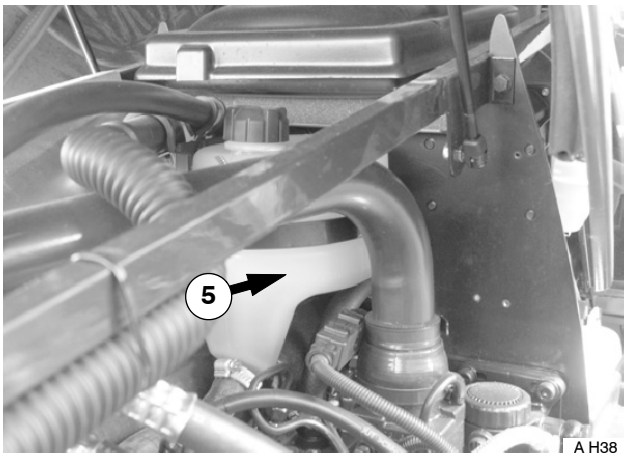
Before filling:

– Fasten the radiator lower hose (**2**)
– Close the drain plug of the cylinder group (**3**)



A H37

– Loosen the hose placed on the thermostat housing going to the expansion tank and check that the restrictor hole (Ø about 2 mm) in the union (**4**) is open. Refasten the hose.



A H38

– Fill the system to the expansion tank fluid level mark (**5**).

H 6.1.3. Coolant volume

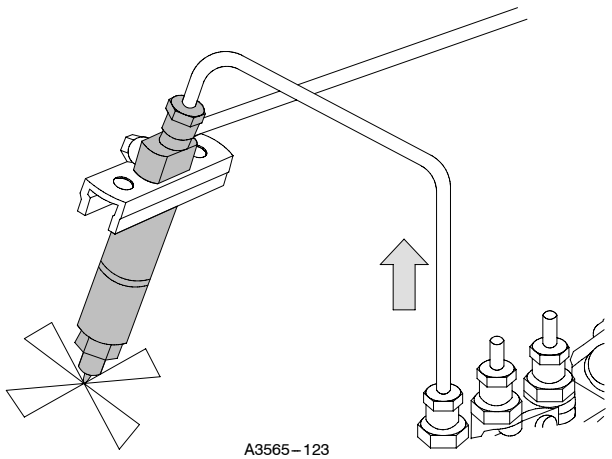
– A75n, A75L . . . . . **13.5 l**
– A85n . . . . . **15.5 l**
– A95n . . . . . **15.5 l**
– A85n, A95L . . . . . **10,0 l**

Ensure that a recommended coolant is always used.

IMPORTANT: Never fill up with cold fluid while the engine is warm. Do not use plain water as coolant.

After changing the fluid run the engine for a time and check the level of fluid.

H 6.2. Check and clean injectors (41)


A3565–123

For the engine to produce full power the injectors must be in perfect condition. Checking and cleaning should be carried out by an authorized workshop.

Symptoms of dirty or defective injectors:

– Knocking indicates a fault on one or more of the injectors. Knocking can occur on a cold engine when running at idling speed. When knocking occurs at normal working temperature this indicates that the injectors are not functioning property.
– Air in the fuel system can also cause knocking (disappears after the system has been bled).
– Smokey exhaust gases are another symptom of poor function of the injectors (can also be due to other reasons, e.g. blocked air cleaner).

H 6.3. Change brake fluid (42)

A H22

WARNING: Brake fluid is corrosive and poisonous and must be handled carefully at all times (it also corrodes the paint).

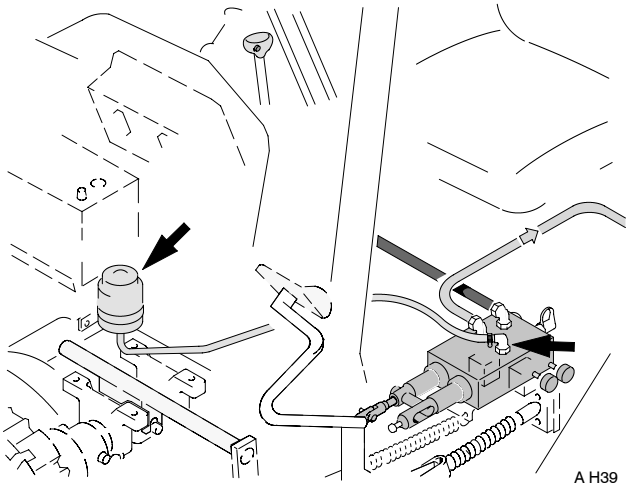
It is recommended that the brake fluid be changed every second year or after 2000 hours of operation.

– Empty the brake fluid reservoir, open the bleed nipples. It is better to place hoses from the nipples into a container, as the fluid corrodes the paint. Pump the brake pedal until all brake fluid in the pipes and cylinders has run out.
– Fill the brake system with new brake fluid.
– Bleed the brake system of air (see Checks and Adjustments on page 94).

If the tractor is equipped with the trailer brake valve and / or air pressure brakes as extra equipment, open also their bleed nipples to drain the hoses. The brakes must also be bleeded from the nipples:

– the fluid brakes of the trailer, see the bleeding instructions on page 122.
– the air pressure brakes, see the bleeding instructions on page 120.

The correct amount of brake fluid is 0.3 liter.



If the tractor is equipped with the push buttons for HiShift as extra equipment, change the clutch fluid. The clutch fluid reservoir for HiShift is to the left side of the battery (the shield has to be loosened). Empty the clutch fluid reservoir (loosen first the service cover from the mudguards) by loosening the hose coming from the reservoir from the valve side.
The correct amount of clutch fluid is 0.3 liter.

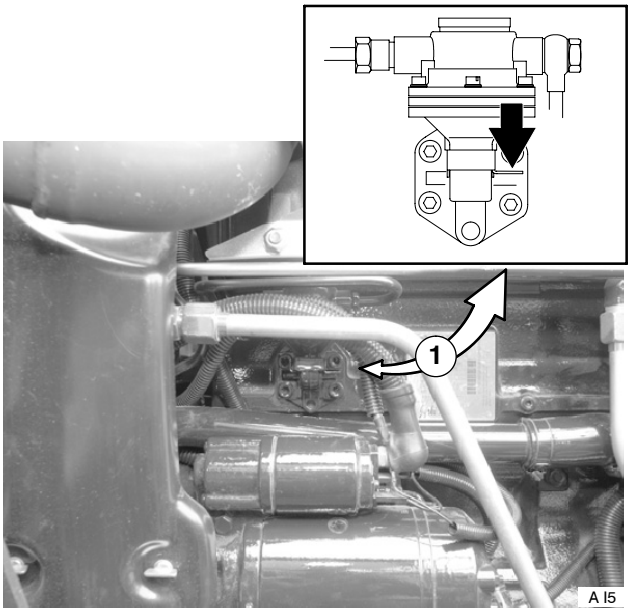
I. Checks and Adjustments

Check and adjustment instructions for the extra equipment are in section K, after each extra equipment.

I 1. Engine

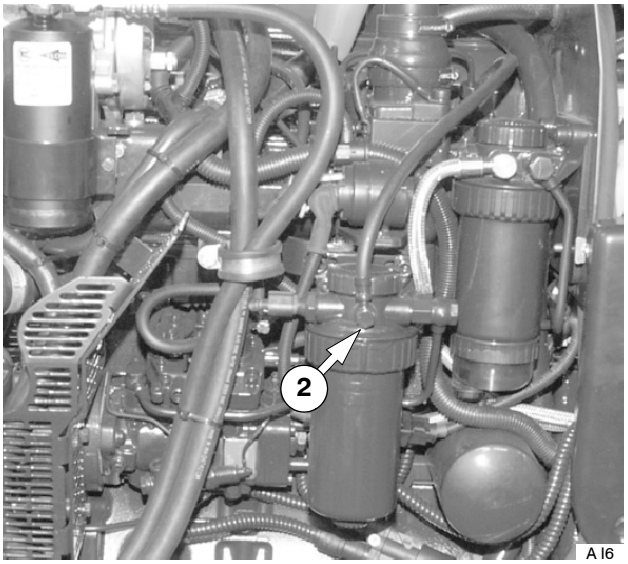
I 1.1. Bleeding fuel system

There should be no air in the fuel system to ensure that the motor function is of maximum efficiency. The system automaticly removes the small guantity of air which has built up in the filters and injection pump. The fuel system must be bled if any part of it has been removed or if the tractor has run out of fuel during driving so that air has entered the system. Bleed the fuel system as follows:



A I5

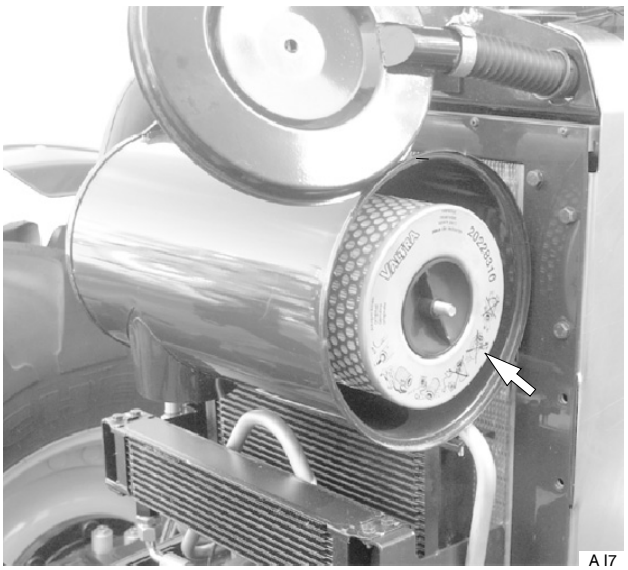
1. Pump by hand the lever (**1**) on the fuel pump. If pumping feels ineffective, turn the engine a little, so the camshaft turns away from the line of the pump arm.



A I6

2. Start the engine to the low idling, do not race. If the engine does not start, open the union (**2**) of the bleeding pipe from the fuel filter to the injectors. Pump by hand pump, until the fuel is running out from the union. Tighten the union and dry the fuel overflowed.
   IMPORTANT: Do not open the union in the upper part of the prefilter, because it is on the suction side.
3. Start the engine and check that there are no leaks.

I 1.2. Air cleaner

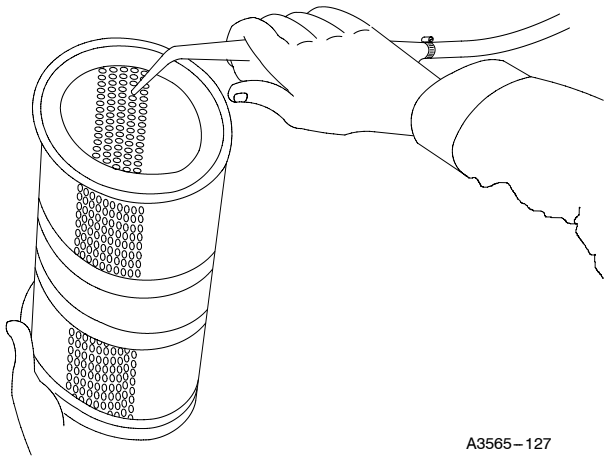

A I7

The air cleaner prevents dust and other dirt from entering the engine with the induction air. Engine wear is largely dependent on the cleanliness of the induction air so it is very important to check the air cleaner regularly and to

maintain it correctly.

IMPORTANT: The safety filter inside the main filter must not be cleaned but must always be changed according to the maintenance schedule. The purpose of the safety filter is to prevent damage to the engine if the main filter should fail.

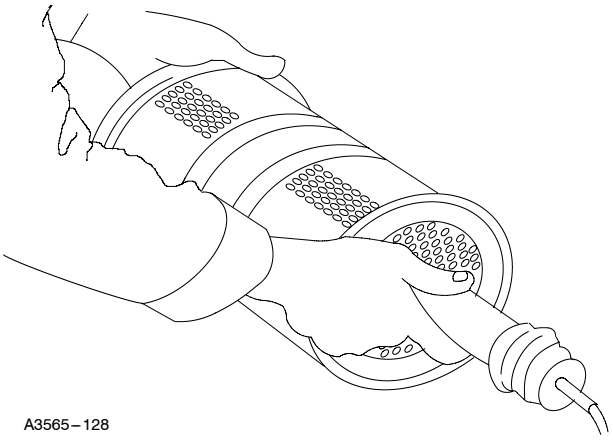
I 1.2.1. Maintenance of main filter



The air filter must not be **cleaned** more than **five times**, after which time it must be replaced. Check when cleaning that the filter and its seals are undamaged. A damaged filter must always be replaced.

IMPORTANT: Never clean or remove the air filter unless it is absolutely necessary. When removing the air filter there is always the possibility that dirt can enter the induction system of the engine.

Cleaning the main filter

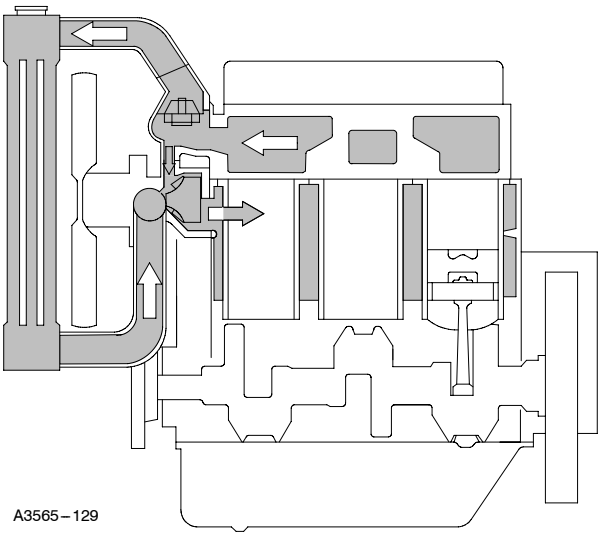


Use clean and dry compressed air with a max. pressure of **500 kPa** (5 bar).

1. Direct the air flow against the inside of the filter along the folds. Do not hold the nozzle closer than **3–5 cm**.
2. Then direct the air flow against the outside of the filter along the folds and after this against the inside of the filter again.
3. Check the filter and its sealing surfaces by means of a torch. Replace the filter if any holes or other defects are discovered.

IMPORTANT: See service instructions on page 69 and replace safety filter in the air cleaner (maintenance every 1000 hours or yearly page 82).

I 1.3. Maintenance–cooling system



The following action should be taken to make sure that the cooling system functions correctly:

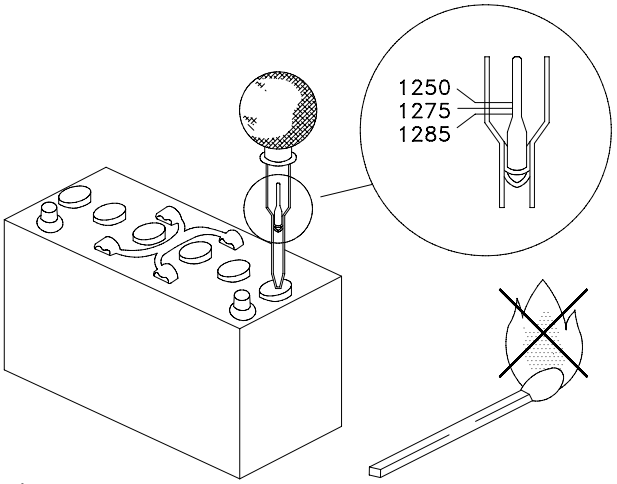
– Check the coolant level (see maintenance program daily checks).
– Check the fan belt tension (see maintenance program weekly checks).
– Clean the radiator honeycomb externally by means of compressed air or by flushing through with water.

I 1.3.1. Coolant

The cooling system is filled with a mixture of water and anti–freeze agent on delivery. The anti–freeze agent also has the property of preventing rust from forming in the cooling system. However, the anti–rust properties of the agent diminish with time so that it is important to change the coolant at regular intervals. A suitable mixture is half anti–freeze agent and half water but the manufacturer's directions should always be followed (see cleaning of cooling system, Service at 2000 hrs intervals on page 85).

I 2. Electrical system

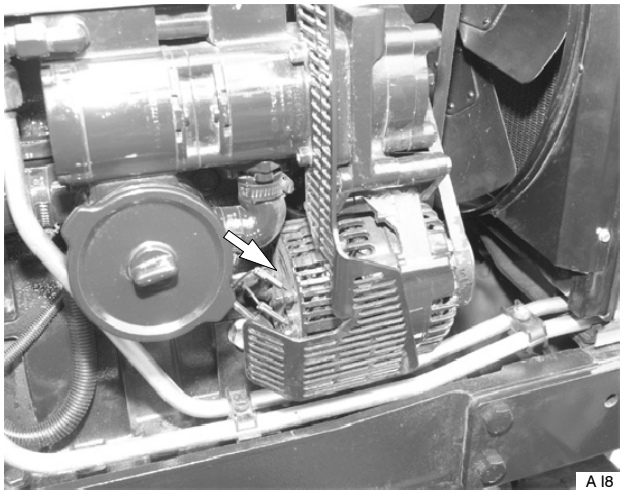
I 2.1. Checking and maintenance of battery



– Check the charge of the battery with an acid tester. Min. 1.23.
– Check fan belt tension.
– Keep the battery clean. It can be washed with lukewarm water after removal from the tractor (always disconnect the negative lead first).
– Also clean the pole studs, the cable terminals and the battery retainer thoroughly. Wash off oxidized spots with water.
– Wipe the outside of the battery, and coat the pole studs and the cable terminals with petroleum jelly.
– Refit the battery (always connect the positive lead first).

DANGER: Avoid sparking or naked flames near the battery. The battery gives off hydrogen gas which is highly explosive. The battery electrolyte is corrosive.

I 2.2. Alternator



The tractor has a negative–grounded alternator which can easily be damaged if an incorrect connection is made in the electrical system. For example, connection of the battery with wrong polarity can burn out the alternator or rectifier. **The electrical charging circuit must not be broken when the engine is running**.

I 2.3. Safety precautions for the electrical system

– Always connect the battery with the correct polarity.
– Disconnect the negative lead of the battery first and connect it last.
– Never brake the charging circuit while the engine is running.
– Disconnect the battery negative lead before removing the alternator from the engine.
– Arrange enough ventilation to prevent the build–up of explosive gases in and around the battery.

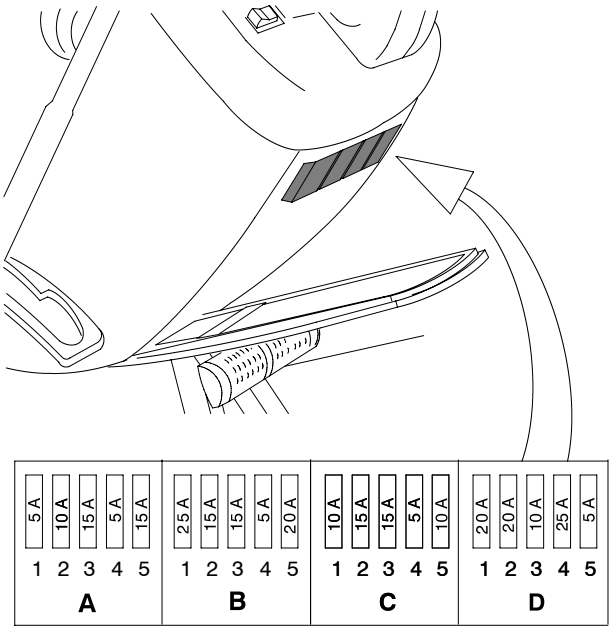
IMPORTANT: The battery leads (negative first) and the alternator wiring must be disconnected before arc welding is carried out on the tractor or an implement which is attached to it.

Never run the engine with the alternator disconnected. Do not connect any additional electrical equipment, as this may damage components of the existing electrical system.

I 2.4. Fuses

The fuse box is placed under the instrument panel. In the component list the fuses are numbered from left to right. **Fuses must not be replaced with ones of a higher rating**, as this may cause damage to the electrical equipment.

I 2.4.1. Cab models



A I9

The fuse rating is as follows: 5A (five), 10A (four), 15A (six), 20 A (three) and 25 A (two).

FA, FB, FC, FD Fuses from left to right

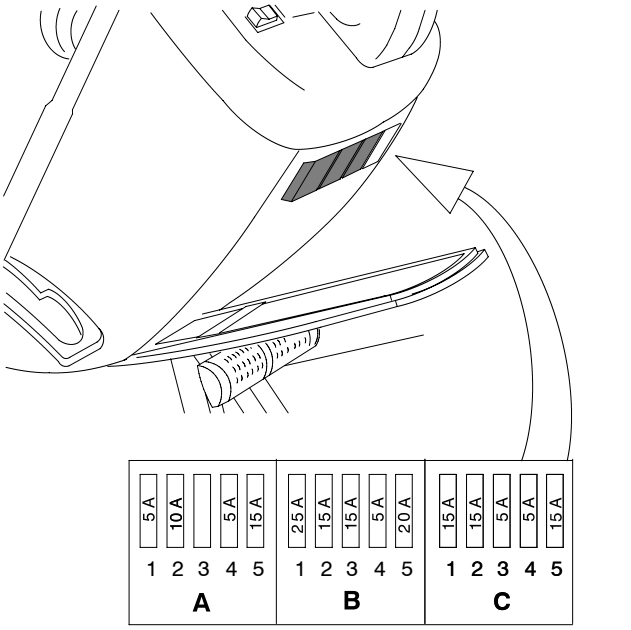
FA1 5A Instruments, ind.lights, Autocontrol, fuel gauge
FA2 10A Rot. warning light, radio
FA3 15A Wiper+washer, rear wiper+washer
FA4 5A Front PTO, light switch illum. light, current socket
FA5 15A Direction indicators, braking lights, reverse buzzer, air suspen. seat, warning flashers, 4WD, differential lock

FB1 25A Light switch
FB2 15A Dipped beams
FB3 15A Full beams, –indication light
FB4 5A Autocontrol
FB5 20A Starter switch, electric–stop, rear fog light, control stop, control relay of the electric preheating of engine induction air

FC1 10A Cigarette lighter, cab light
FC2 15A Rear working lights
FC3 15A Horn, current socket, front working lights, hazard warning flashers
FC4 5A Left parking light, instrumentation lights, working light switches, hazard warning flashers illum. light
FC5 10A Parking light, right

FD1 20A Fan, upper fan I–II-speed, Air–conditioner
FD2 20A Air–conditioner, upper fan III-speed
FD3 10A HiShift, PTO–HiShift, radio
FD4 25A Current socket
FD5 5A Radio, (clock*), light alarm buzzer

I 2.4.2. Open cab models



A I13

The fuse rating is as follows: 5A (six), 10A (one), 15A (five), 20 A (one) and 25 A (one).

FA, FB, FC Fuses from left to right

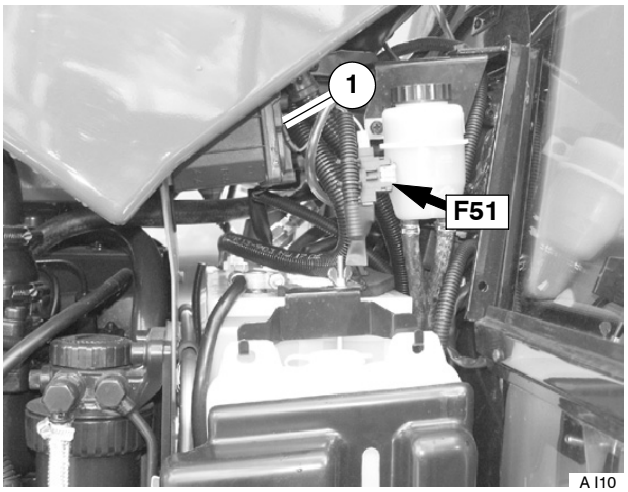
FA1 5A Instruments, ind.lights, fuel gauge
FA2 10A Rot. warning light
FA3 –
FA4 5A Light switch illum. light
FA5 15A Direction indicators, braking lights, reverse buzzer, 4WD, differential lock

FB1 25A Light switch
FB2 15A Dipped beams
FB3 15A Full beams, –indication light
FB4 5A Light alarm buzzer
FB5 20A Starter switch, electric–stop, rear fog light, control stop, control relay of the electric preheating of engine induction air

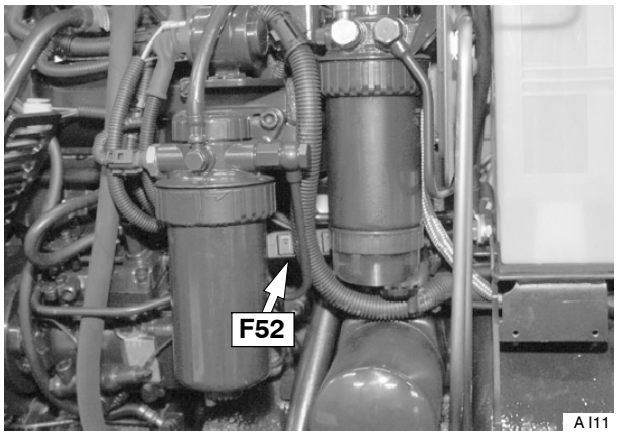
FC1 10A Rear working lights
FC2 15A Horn, front working lights,
FC3 15A Left parking light, instrumentation lights, working light switches, hazard warning flashers illum. light
FC4 5A Parking light, right
FC5 10A Hazard warning flashers

I 2.4.3. Other fuses

In engine bulkhead



(F51) 15A Main current switch, electric controlled, extra equipment. The fuse is situated on the cable from the main current switch (**1**).



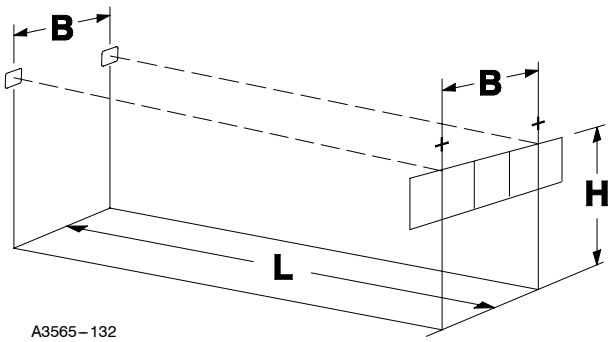
F52 250A Fuse for electric preheating of engine induction air

I 2.5. Current sockets

When you need a continuous electrical supply eg. to the implement, illumination etc. power can be taken from the trailer connection (see page 53). Further on the front side of the tractor there is a current socket, see page 14.

Power for optional equipment can also be taken from the spare fuses or unused optional equipment fuses. A continuous power source can be connected from the main current pole of the starter motor (on the models with main circuit breaker, power is switched off with main switch) through the new fuse.

I 2.6. Headlight adjustment



Correct adjustment of the headlights is very important when running on the public road.
Headlight adjustment can be carried out quickly and accurately by using an optical headlight adjusting unit. If no optical instrument is available, adjustment can be done as follows.

With dipped–beam switched on, the cutoff edge of the light pattern should come at height H when the tractor is at distance L. With full–beam switched on, the distance between the light points should be B. Any necessary adjustment is done by using the headlamp adjusting screws.

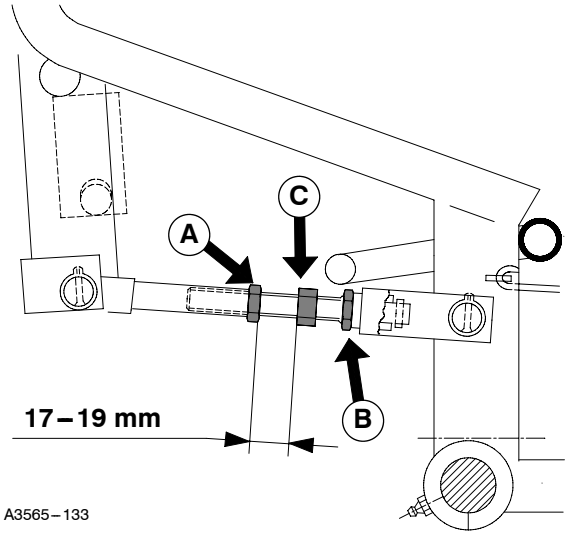
Measurements:

L = 5 m
B = Center distance between headlights
H = Height of headlights above ground minus 50 mm

If tractor has up lifted full/dipped beam headlights (on the top part of the cab), the lights have to be adjusted so, that the light pattern shines on the mark at a distance of 30 m on even ground.

I 3. Power transmission

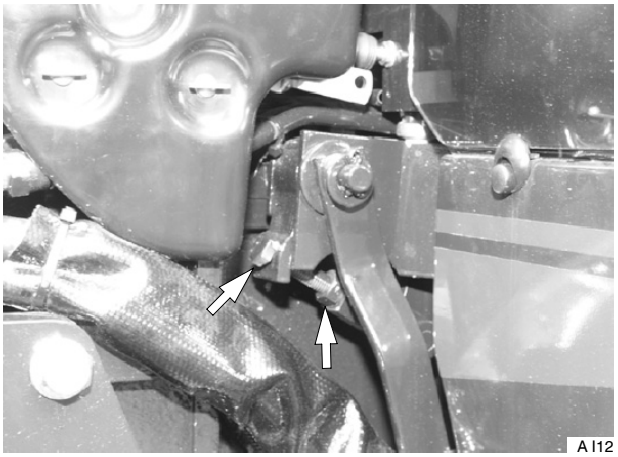
I 3.1. Adjusting pedal free travel of propulsion clutch



Check the pedal free travel at regular intervals. The pedal free travel should be **20 – 25 mm**. Carry out adjustment as follows:

– Slacken lock nut **A.**
– Screw the adjusting rod with nut **B** until the pedal free travel is correctly adjusted. Tighten the lock nut.
– When the restricting sleeve comes up against the lock nut further adjustment of the pedal free travel is no longer possible, therefore, the clutch disc must be changed. The measurement (17 – 19 mm) shown in the figure applies to a clutch with new disc.

I 3.2. Adjusting PTO clutch lever free travel



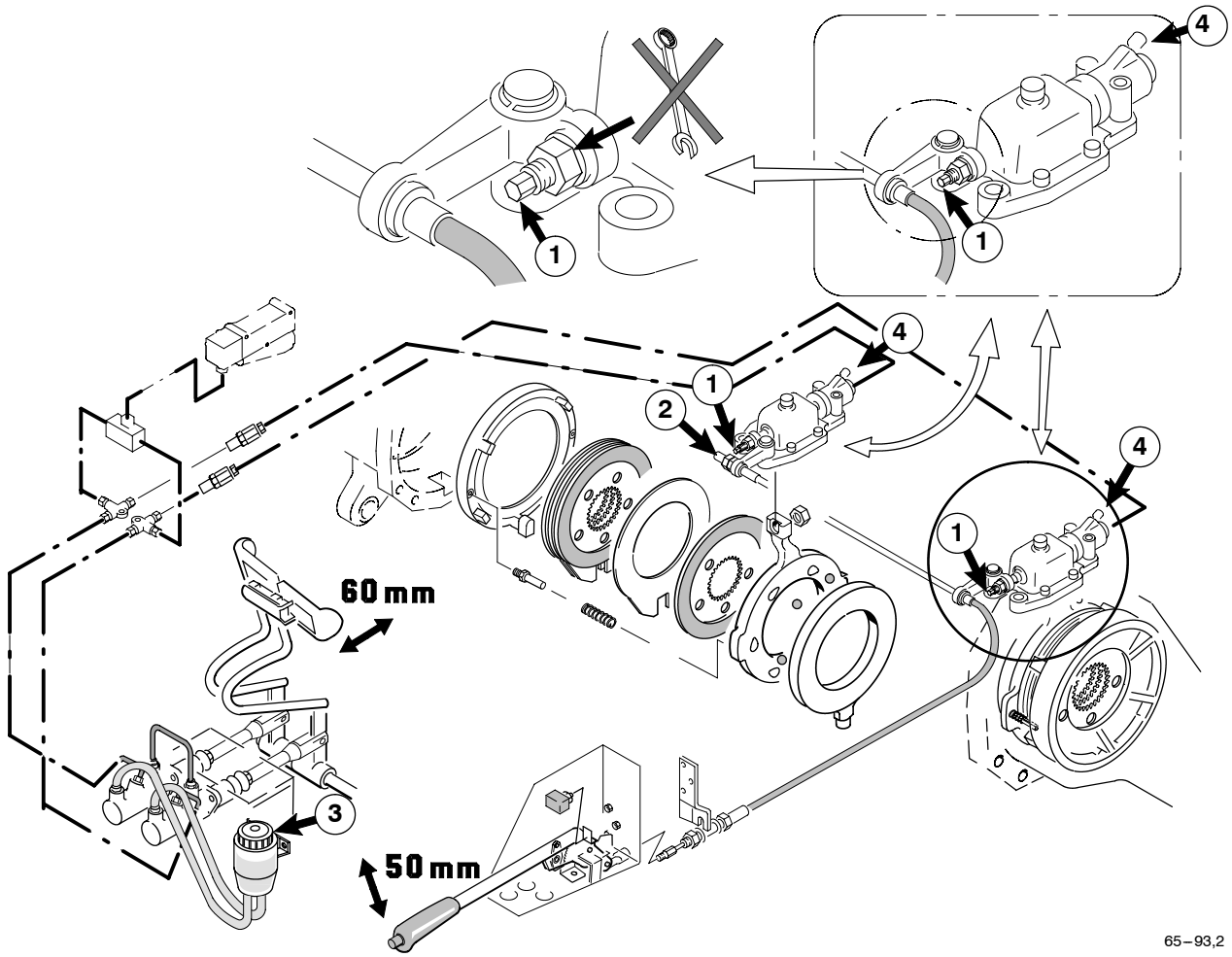
The free travel at the end of the lever should be **30 – 40 mm.**

Adjusting

– Slacken the lock nut.
– Turn the adjusting nut until the travel is correctly adjusted.
– Tighten the lock nut.

I 4. Brake system

I 4.1. Adjusting travel of brake pedals



65–93,2

The travel should be **60 mm** with pedals connected together.

– Fit blocks in front of the front wheels to prevent the tractor from moving.
– Raise the rear end of the tractor off the ground and adjust both brakes separately by turning the brake rods (**1**) on the drive gear (**NOTE:** with the ring spanner of 9 mm, the fork spanner may slip) until the brakes are on.
– Slacken the brake rods 1 turn and check that the wheels can rotate freely.
– Check by driving with the pedals connected together that the brakes do not pull to one side.

Check the pedals free travel.

I 4.2. Adjusting parking brake

The parking brake is controlled mechanically and it is connected to the foot brake mechanism by a cable. The parking brake is adjusted in the factory and re–adjustment is not necessary unless parts of brake mechanism have been changed (the parking brake is affected when the foot brakes are adjusted).

When necessary, adjust parking brake lever free travel to about 50 mm (at lever end) by turning the adjusting nut (**2**) at the rear end of the cable.

IMPORTANT: Always adjust the driving brakes before adjusting the parking brake.

I 4.3. Bleeding brake system of air

NOTE: Check that the brake fluid reservoir (3) is full before starting to bleed the system.

Bleed the brakes as the following (the brake pedals should not be latched together):

– Depress one of the brake pedals and at the same time open the bleed nipple (**4**) on the brake which is being actuated by the pedal. Before depressing the brake pedal and opening the bleeding nipple, pump several times with the pedal in order to build up the pressure in the system.

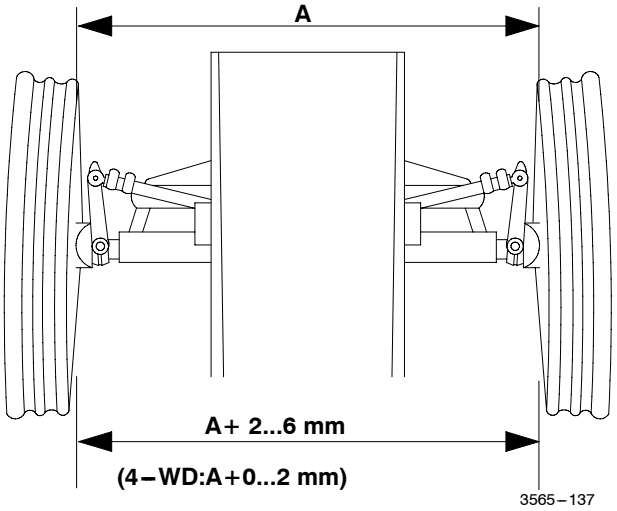
– Depress the brake pedal fully and close the nipple and slowly let the brake pedal up again.
– Repeat the pumping action with the brake pedal until the brake fluid which runs out at the bleeding nipple is completely free of air.
– The procedure for bleeding the brake is the same on both sides.
– Check the brake fluid amount in the reservoir after bleeding and top up if required.

If the tractor is equipped with the trailer brake valve and / or air pressure brakes, they must be bled before bleeding the brakes, because their bleeding nipples are placed lower down:

– the fluid brakes of the trailer, see the bleeding instructions on page 122.
– the air pressure brakes, see the bleeding instructions on page 120.

I 5. Steering system

I 5.1. Checking and adjusting toe–in of front wheels

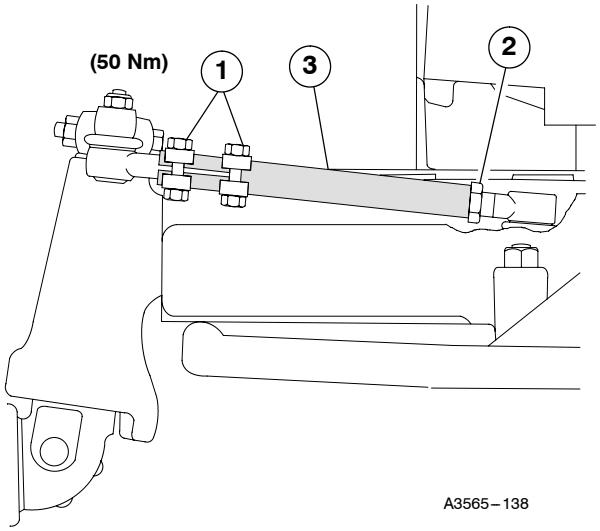


First check that there is no play on the ball joints of the steering arms and tie rod. Set the wheels for running straight ahead.

Checking

Make a vertical mark on the front edge of both front tyres/tires on the middle of the tread level with the hubs. Measure the distance between the marks. Roll the tractor forwards so that the marks again come level with the hub, this time at the rear edge. Measure the distance between the marks again. The measurement should be larger at the rear edge, **2–6 mm** more on two–wheel drive tractors and **0–2 mm** more on four-wheel drive tractors.

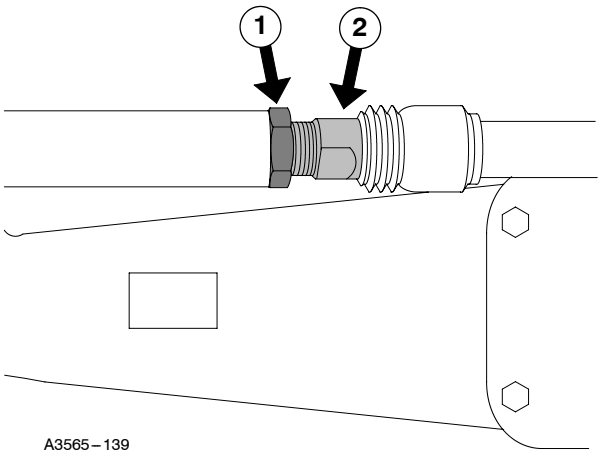
I 5.1.1. Adjusting toe–in 2WD



– Loosen the tie rod bolts (**1**) and slacken the locking nut (**2**).
– Turn the rod (**3**) to desired direction (one round at once). Lock the nut (**2**) and re–tighten the bolts (**1**) back.

Adjust both tie–rods so that there is no restriction of the steering lock. Check toe–in as before.

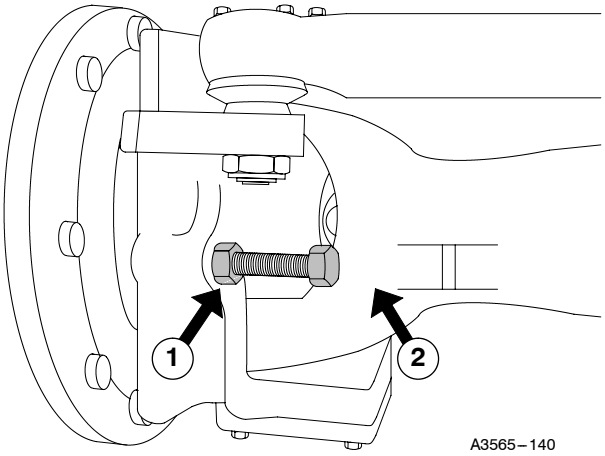
I 5.1.2. Adjusting toe – in 4WD



Slacken the locking screw (**1**) of the tie rod and turn the adjusting screw (**2**) in the desired direction. Tighten the locking screw.

Adjust both tie – rods so that there is no restriction of the steering lock. Check toe – in as before.

I 5.2. Limiting steering lock of front wheels (powered front axle)



IMPORTANT: When altering the track width or when fitting a front loader, always make sure that the front wheels have free movement to full lock in both directions and that the front axle and the wheels can turn fully. If necessary adjust the steering lock stops on the powered front axle. To carry out the adjustment slacken the locking nuts (**1**) and adjust the adjusting screws (**2**). After adjusting tighten the locking nuts.
IMPORTANT: Adjust the adjusting screws of both sides to the same length, so that the turning angle is the same on both sides.

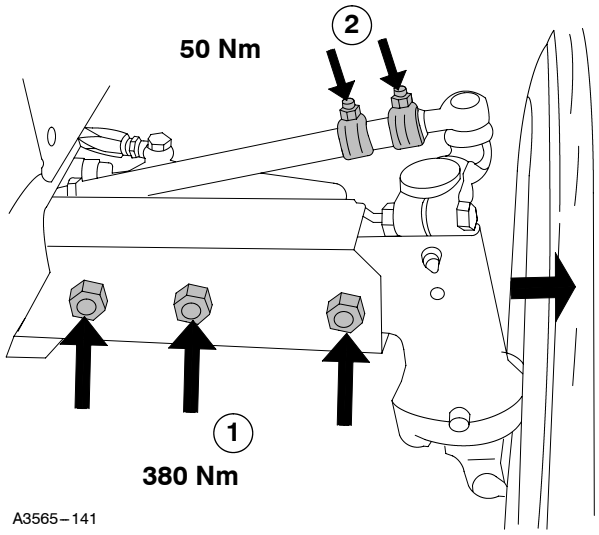
I 6. Adjusting track width

When track widths are adjusted or larger tyres/tires fitted, the turning angles have to be checked/adjusted for max turning angle of the front axle on both sides. Check also when using chains that the distance from the cab to the tyres/tires does not go below 80 mm. Check that the distance from parking lights to the outer sides of the tyres/tires does not exceed 400 mm.

I 6.1. Front axle

Apply the parking brake or scotch the rear wheels to ensure the tractor cannot move.

I 6.1.1. **2WD axle**

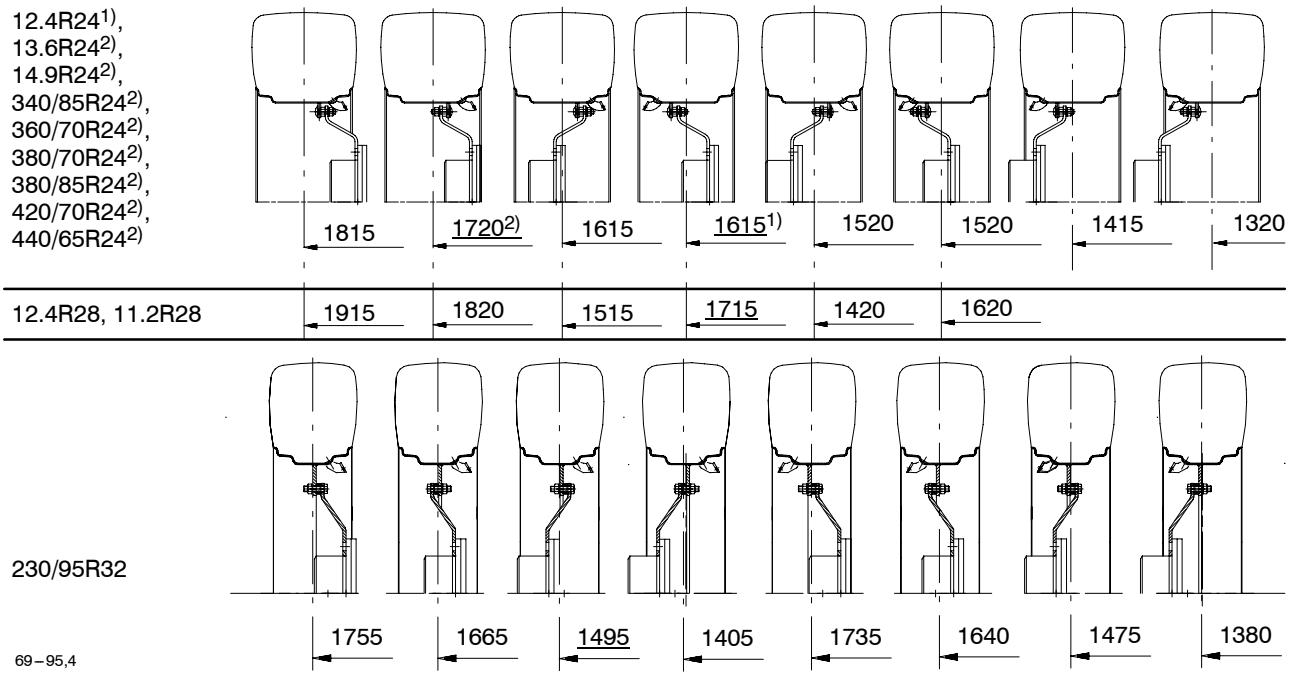


– Raise the front end with a jack under the centre of the front axle.

– Loosen and remove the bolts of the front axle (**1**) and tie rods (**2**)
– Pull out the axle until the desired track width is obtained.
– Move both tyres/tires the same distance.
– The front axle has three different track width possibilities.

Track widths, ”Specifications” are given on page 103. Refit the bolts and tighten the nuts.
NOTE: Check the toe–in after adjusting (instructions on page 95).

I 6.1.2. **Powered front axle**



The standard track widths are underlined.

Adjusting front and rear wheel track widths is done in the same way.

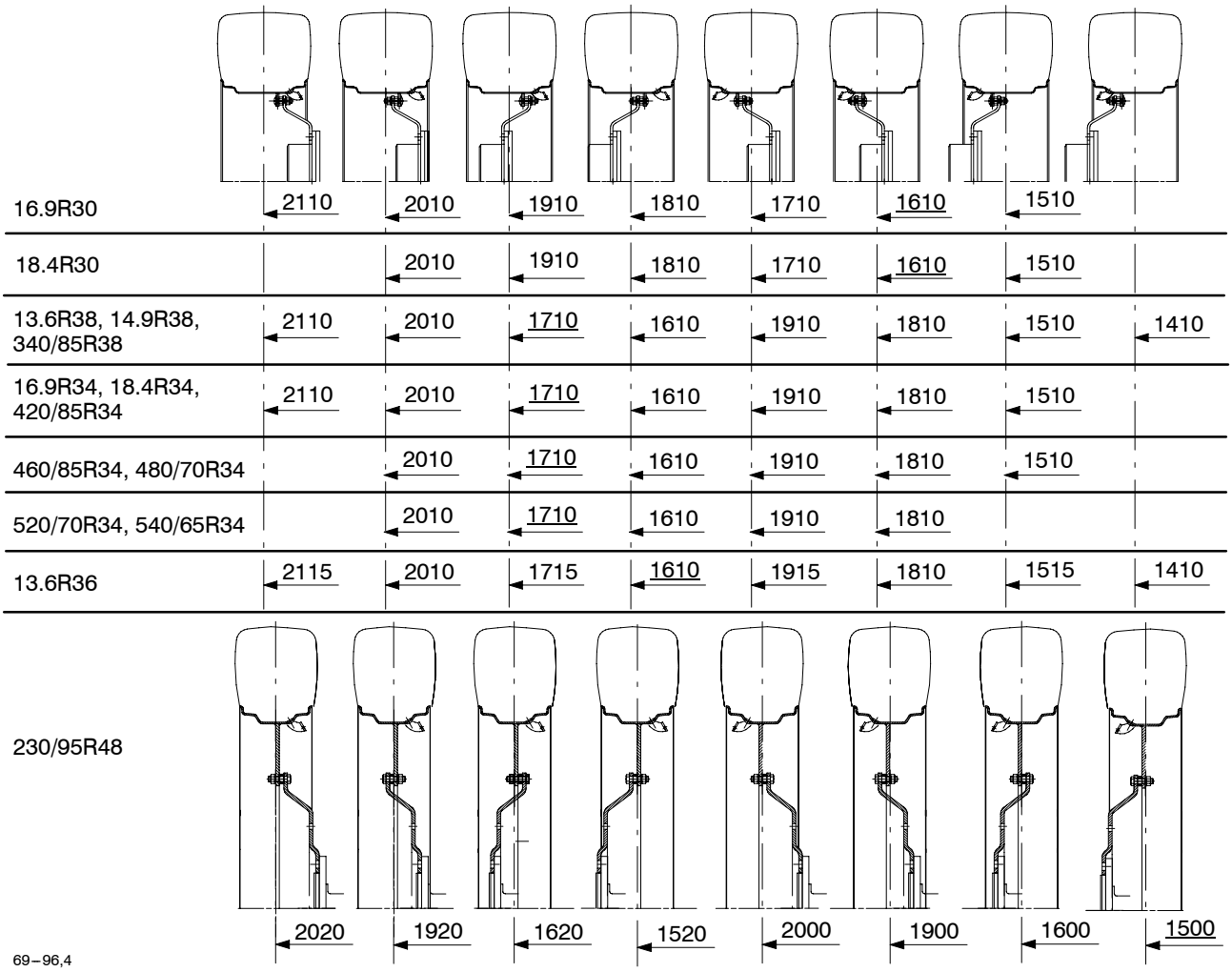
Track width can be adjusted by changing the position of the wheel rim in relation to the central disc or by turning the wheel around (as shown above). Make sure that the arrows on the upper part of the tyres/tires are pointing forwards.

IMPORTANT: When altering the track width or fitting a front–mounted loader, check that the wheels do not go too far at maximum steering lock and axle pivoting movement, if necessary restrict the steering lock with the limiters fitted on the axle.

IMPORTANT: The toe–in of the front wheels must be checked again after any adjustment of the track width. The widest track width must not be used when running with large front–mounted loaders. (Loadings on the section ”Specifications” see page 100).

IMPORTANT: Lubricate the wheel nuts and tighten them to the recommended values. Wheel nuts must be retightened periodically (see technical specifications).

I 6.2. Adjusting track width: Rear axle



Adjusting front and rear wheel track widths is done in the same way.

Before adjusting scotch the front wheels to prevent the tractor from moving. Raise the rear wheels off the ground and position sturdy axle stands under the axle housing.

The standard track widths are underlined.

I 7. If the tractor is not used

I 7.1. Storing the tractor

For a period shorter than two months

No special measures are required provided that:

– The tractor has been regularly maintained
– The tractor is clean and has been washed
– The coolant contains enough anti–corrosion liquid
– The fuel tank is full
– The battery is kept in a suitable place
– The air conditioning is operated for a few minutes at least once a month.

For a period longer than two months

– Clean, wash and lubricate the tractor
– Clean the fuel tank
– Fill the fuel tank with fuel
– Change prefilter of the fuel system, distributor models
– Change the fuel filter and bleed the fuel system of air
– Clean the air cleaner
– Change engine oil and oil filter
– Make sure that the coolant contains enough anti–corrosion liquid and check the charge in the battery
– Run the engine until it is thoroughly warm
– Lower the hydraulic lift to its lower position
– Stop the engine, unscrew the injectors and pour 0.1 liter of preserving oil into each cylinder.
– Crank the engine a few rews. Refit the injectors with new gaskets.
– Remove the battery, clean it and store it in a cool dry place where there is an even temperature. Charge the battery every 2 months.
– Slacken the fan belt (compression belt)
– Protect exposed parts against corrosion by applying anti–corrosion oil.
– Cover the air induction pipe to the air cleaner and the exhaust pipe with a plastic bag or similar.
– Operate the air conditioning for a few minutes at least once a month

I 7.2. Removing the tractor from storage

After a period shorter than two months

– Fit the battery (fully charged)
– Check the oil level in the engine and transmission, the coolant level in the radiator, the electrolyte level in the battery and the tyre/tire pressures.
– Carry out the general lubrication
– Bleed the fuel system if required
– Start the engine without racing it
– Test–run the tractor and make sure that everything works correctly.

After a period longer than two months

– Check the tyre/tire pressures
– Remove the protective covers
– Turn the radiator fan carefully forwards and backwards, so that the sealing ring of the coolant pump works loose (it may have stuck to the shaft).
– Wash off any anti–corrosion oil applied to the exterior of the tractor
– Tension the fan belt (compression belt)
– Remove the valve cover and lubricate the rocker mechanism with engine lubricating oil.
– Check the oil level in the engine and transmission, the coolant level in the radiator and the electrolyte level in the battery
– Bleed the fuel system of air
– Refit the battery (fully charged)
– Start the engine without racing it
– Test–run the tractor.